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SPECIAL LISTING

CURRENT CANCER RESEARCH

on

PATIENT REHABILITATION AND PSYCHOSOCIAL FACTORS OF CANCER TREATMENT, INCLUDING TRAINING PROGRAMS

MAY 1981

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Dear Cancer Researcher:

This **SPECIAL LISTING** of Current Cancer Research Projects is a publication of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) Program of the National Cancer Institute. Each **LISTING** contains descriptions of ongoing projects in one selected cancer research area. Approximately 50 different cancer research areas are covered by a separate **SPECIAL LISTING.**

The present series of **SPECIAL LISTINGS** is a third edition, and begins with number 201. This series will update the second edition which included **SPECIAL LISTINGS** numbered 101 through 147. Depending on the total number and types of cancer research summaries received, the third edition will have at least 47 titles, and possibly a few more. In most cases, each third edition **SPECIAL LISTING** will replace the exact subject area of a second edition **LISTING** (SL 201 replacing SL 101, etc.). Whenever the number and variety of summaries requires a change in this procedure, a notation will be made in the specific **LISTINGS** affected.

The purpose of these **LISTINGS** is to promote and facilitate the exchange of information among cancer scientists. The project descriptions in the **LISTINGS** are provided by cancer scientists from more than 50 different countries. Researchers are urged to prepare accurate summaries which will be rapidly processed for inclusion in the CANCERPROJ data base as well as future **SPECIAL LISTINGS.**

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NCI/ICRDB/SL-424
(Updates NCI/ICRDB/SL-324)

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CURRENT CANCER RESEARCH

I. PATIENT REHABILITATION AND PSYCHOSOCIAL FACTORS OF CANCER PATIENT CARE

A. PROSTHESES DEVELOPMENT

1. SENSORY FEEDBACK LEG PROSTHESIS FOR CANCER PATIENTS

Clippinger, F. W., Harrelson, J. M., McElhaney, J. H., Vaughn, D., George, R. T., Horton, G., Duke University, School of Medicine, Dept. of Surgery, *Box 3711, Durham, North Carolina,* 27710, United States of America

This is a multidisciplinary study aimed at continuing the development and clinical testing of devices to provide lower limb cancer amputees with sensory feedback from their prosthesis. Based on the previous work on this project the investigators believe that sensory feedback of the type proposed will materially improve the quality of life of lower limb cancer amputees by allowing them: a) To more quickly learn to use their prosthesis and to optimize their gait and balance, b) to more easily walk on soft, uneven and poorly illuminated terrain, c) to adapt more successfully to their changed life.

This study will also produce data on the long-term effects of peripheral nerve stimulation on stump pain and circulation problems. In addition, the existing patient population with implanted peripheral nerve stimulation presents a unique opportunity to study sensory physiological phenomena.

Previous work has demonstrated the feasibility of multichannel (7) implanted inductive coupled peripheral nerve stimulation. It is proposed to develop and evaluate a series of multichannel sensory feedback systems. It is also proposed to continue to develop and evaluate the single-channel systems of the initial grant period.

Evaluation of the device effectiveness involves a research team of orthopedic surgeons, bioengineers, physical therapists, specialists in orthotics and prostheses, psychologists and nurses, each analyzing the patients' reactions to the devices in special laboratory tests and in a day-to-day living setting.

2. ADVANCED PROSTHETICS/ORTHOTICS IN CANCER MANAGEMENT

Lehneis, H. R., Frisina, W., Susman, W. M., Cohen, J. L., New York University, School of Medicine, Dept. of Rehabilitation Medicine/Orthotics & Prosthetics, *550 1st Ave., New York, New York,* 10016, United States of America

This is a plan to design, develop, test and utilize a cost-effective limb prosthesis/orthosis system specifically suited for people who have undergone common amputations/tissue resections due to cancer. Amputation level and respective devices to be designed include hip disarticulation, hemipelvectomy, forequarter, and lower limb tissue resections. Introducing considerations specific to cancer amputations in the initial design criteria is thought to be especially important in increasing prosthesis acceptance for these high levels, thus eliminating the wasted investments in the prothesis and associated efforts.

This work will attempt to demonstrate the economy - primarily from the viewpoint of utilization - of a high level upper limb prosthesis controlled by myoelectric means for the purpose of using this control mode for very high levels, as part of the design criteria for the development of the above upper limb prosthesis. Cost effectiveness will not only be insured by mechanical design but also through the planning and execution of a non-technical brochure for patients and the developing of a prosthetics/orthotics cancer management model.

Consistent with the above, the devices and fabrication and fitting techniques are to be designed for general prosthetic and orthotic use as well in order to compound product utilization; this would further increase the benefit/cost ratio.

3. EFFECTIVENESS OF PALATAL AUGMENTATION FOR SPEECH IN GLOSSECTOMIZED PATIENTS

Christensen, J. M., Hasegawa, A., Hutton, J. E., Fletcher, S. G., University of Alabama in Birmingham, School of Medicine, Dept. of Biocommunication, *1919 7th Ave. S., Birmingham, Alabama,* 35233, United States of America

OBJECTIVE: The objective of this study was to determine if improved articulatory function was possible in glossectomized patients following prosthetic augmentation of the palatal vault.

APPROACH: Two female patients served as the subjects of this study. In each case the left half of the patient's tongue and portions of the mandible, maxilla and palatal vault on the left side had been excised due to cancer.

Each patient had an oral prosthesis constructed for her which conformed to the original palatal vault. A custom augmenting piece was also formed which could be attached to the palatal surface of each individual's prosthesis. Two thin pseudopalates less than half a millimeter thick and containing 96 contact sensors were also made which fit the patient's prostheses; one conformed to the original palatal vault shape and the other to the augmented palatal contour.

Stimulus materials consisted of two lingual fricatives combined with three point vowels to form symmetric syllables. Each syllable was repeated in a random sequence within a frame sentence.

Acoustic and dynamic palatometric data were collected with a computerized system on three different days: Day 1, baseline using the unaugmented prosthesis; Day 2, an A-B-A experiment where B was the unaugmented prosthesis; and Day 3, one month after the augmented prosthesis had been worn daily.

RESULTS: The dynamic palatometry data indicated that the augmented prosthesis enabled these patients to effect a significant difference in minimal groove formation not possible wih the unaugmented palate. An analysis-by-synthesis procedure used to evaluate the resulting acoustic spectra proved helpful in subsequent refining of the augmented prostheses. These results demonstrate the usefulness of prosthetic augmentation in improving the articulation of glossectomized patients.

BIBLIOGRAPHIC REFERENCES: Fletcher, Samuel G., Diagnosing Speech Disorders from Cleft Palate. New York: Grune and Stratton, 1978. Hasegawa, A., Christensen, J. M., McCutcheon, M. J., and Fletcher, S. G., Articulatory properties of /s/ in selected consonant clusters. Wolf, J. J., and Klatt, D. H. (eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America. New York: The Acoustical Society of America, 115-118, 1979.

4. BREAST RECONSTRUCTION EMPLOYING AN OMENTUM SKIN FLAP

Spira, M., Baylor College of Medicine, School of Medicine, Dept. of Surgery, *1200 Moursund Ave., Houston, Texas,* 77025, United States of America

No summary has been provided to the Smithsonian Science Information Exchange.

B. PSYCHOSOCIAL ASPECTS OF CARE AND REHABILITATION

5. SOCIAL IMPORTANCE OF CANCER

Dimitrova, E., Plesko, I., Hostynova, E., Slovak Academy of Sciences, Inst. of Experimental Oncology, Dept. of Epidemiology, *Ul. Csl. armady 21, Bratislava 88032, Czechoslovakia*

The aim of this study is to obtain information on the contemporaneous social significance and relative importance of malignant tumors. The evolution, recent and projected future trends of mortality, morbidity, incapacity for work, chronic disability and admissions to hospitals caused by malignant tumors in this country will be analyzed and compared with those for other important groups of diseases.

6. COMPLICATIONS OF RADIOTHERAPY

van den Heuvel, W. J., Inst. of Social Oncology, *Dr. Molewaterplein 50, Postbus 1738, 3000 DR Rotterdam, Netherlands*

This project will consist of a longitudinal study of patients' experiences with radiotherapy, the physical and emotional complications of this kind of treatment and the impact these complications have on the patients' private and social lives.

The object of the study is to obtain more systematic knowledge of these factors and their interrelations, as well as to discover personality characteristics common to patients who develop such complications. Thorough knowledge of personality characteristics associated with complications is a prerequisite of effective prevention, which is of course the ultimate goal of all research work of this kind. Questions to be dealt with are: 1. In what ways do patients experience radiotherapy (dependence on staff of the clinic or unit, anxiety, expected outcome, support and care)? 2. Which physical and emotional complications occur? 3. What is the impact of treatment and what changes does it bring about in the patient's social life (job, family, friends)? 4. What correlations can be found between findings pertaining to issues mentioned in questions 1-3, and individual and social characteristics of the patients in the study (type of cancer, type of treatment, prognosis, age, education, life style, personality, social life)? 5. What correlations can be found between findings pertaining to issues mentioned in questions 1-3, and different ways of providing support and care to the patient (information, support, understanding, support in immediate social environment).

SAMPLE: The sample should be stratified by a number of variables (type of cancer, amount of radiation given, patients who have and who have not had surgery, and patients who have received palliative treatment and patients who have not received such treatment) in order to measure the effect of radiotherapy on the different conditions patients receiving the treatment may be in. For practical purposes the sample should be limited to out-patients of 6 radiotherapy clinics or units varying in approach toward patient and treatment (role of social work, difference between university and regional clinics). From each clinic, 160 patients will be included in the study, amounting to a total of 960 participants.

DATA COLLECTION: All patients will be asked to participate in three interviews and to complete several questionnaires, as part of the interview.

7. PSYCHOSOCIAL CONSEQUENCES OF RADIOTHERAPY

van den Heuvel, W. J., Studicentrum voor Soc. Oncologie, *Plesmanlaan 121, Amsterdam, Netherlands*

OBJECTIVE: Inventory of side effects, personal discomfort, psychological and social problems following and due to radiotherapy in cancer patients. Firstly, what are the disadvantages of this type of treatment according to the patient despite the benefits, and how does the patient react to these disadvantages; what are his opinions about the treatment? And secondly, how can the desire for improvement resulting from this investigation be met; what are the alternatives for better care and guidance in connection with this type of treatment? How can the procedure of radiotherapeutic treatment be improved for the patient? What is and should be the task of the radiotherapist, the laboratory worker and the nurse?

APPROACH: Patients of the outpatient clinics of several cancer hospitals will be interviewed at various stages of the radiation treatment and after the treatment has been completed. In this series of interviews the patient will be encouraged to discuss his personal views, and the reactions he experienced. Various alternative setups of psychosocial care, absence of such care, etc., will be compared. Satisfaction of patients in these setups will be evaluated.

8. OAT-CELL CARCINOMA OF THE BRONCHUS - A STUDY OF PSYCHOSOCIAL RESPONSE IN PATIENTS RECEIVING CHEMOTHERAPY AND RADIOTHERAPY

Sparrow, G. E., Rubens, R. D., Furlong, R. C., Imperial Cancer Research Fund, Medical Oncology Clinic, *Lincoln's Inn Fields, London WC2A 3PX, England, United Kingdom*

A comparative study is being carried out of the psychosocial response of patients when different treatment methods are used for oat-cell carcinoma of the bronchus. Although both chemotherapy and radiotherapy have adverse subjective effects during initial stages of treatment, it is not known how they compare with each other or with symptomatic treatment only. Patients who have been randomly allocated to treatment groups depending on their clinical stage are being assessed, using a semi-structured interview procedure and a self-rating mood questionnaire, both before and during treatment.

9. CONTROL OF EMOTIONAL DISTRESS IN CANCER CHEMOTHERAPY

Leventhal, H., Love, R., Carbone, P., Nerenz, D., Ringler, K., University of Wisconsin, Madison Campus, School of Letters & Science, Dept. of Psychology, *500 Lincoln Dr., Madison, Wisconsin,* 53706, United States of America

The proposed studies investigate behavioral reactions during chemotherapy treatment for patients with breast cancer and non-Hodgkin's lymphoma. The studies will examine the time course of three classes of behavioral response to treatment: specific bodily reactions (nausea, hair loss, pain), general systemic reactions (depression, fatigue), and coping reactions (communication with staff, maintenance of social and work relationships) during the initial 6 to 12 months of chemotherapy treatment. Based on a theoretical model of stress management, we will focus on a series of factors expected to affect behavioral reactions to chemotherapy and willingness to remain in treatment. These include: (1) Symptomatic experience - number, site, and size of tumors available to touch and other sensory experience, as well as the range of symptoms produced by treatment, (2) interpretations of symptoms - perceived causes and consequences, (3) perception and use of available coping resources, and (4) criteria for evaluating coping effectiveness. Combinations of these factors can produce stable systems (patient is attending to symptoms that can be regulated by appropriate coping) or unstable systems (patient is searching for a means of controlling threatening symptoms). An unstable system can be associated with high levels of stress, inability to cope with daily events, and decisions to withdraw from therapy. Stability of the patient's response system and desire to remain in treatment should be high when tumors are palpable and responsive to treatment. A series of intervention studies is presented which aims at minimizing departures from optimal therapy induced by psychological distress. In the interventions, a set of patient preparation procedures will be devised to reduce feelings of hopelessness or loss of control over the threatening and distressing aspects of illness and treatment. The preparation process will use visual and tactile devices to create accurate expectations for treatment experiences and provide practice for coping responses.

10. ALTERING RESPONSES TO POST-SURGICAL EXPERIENCES

Johnson, J. E., Wayne State University, School of Nursing, Center for Health Research, *5557 Cass Ave., Detroit, Michigan,* 48202, United States of America

The research proposes to test the effect of theoretically derived nursing care activities on abdominal hysterectomy patient's ability to cope psychologically during hospitalization and the post-hospital recovery period. An exploratory study to determine the typical experiences of abdominal hysterectomy patients during hospitalization and post-hospital recovery will be conducted prior to a two-phased experimental study.

The first experimental phase will focus on coping during hospitalization. A factorial design will be used to determine the

effects of preparation in behavioral and cognitive control strategies on indicators of the hospitalization course. The second experimental phase will focus on coping during the post-hospital recovery period. One half of the patients in each of the conditions of the first phase experiment will be given behavioral and cognitive control preparation for the post-hospital recovery period; the other half will receive no experimental preparation. The indicators of post-hospital recovery will be mood states and return to usual levels of activities. The two phase experimental design will allow evaluation of the effects of the preparatory activities for the hospitalization period on post-hospital recovery separately and in combination with preparation for post-hospital recovery. A subsample of patients with the diagnosis of cancer is included in both phases of the experimental study. The study is expected to contribute knowledge about various coping strategies which will lend clarity to decisions about the effectiveness of nursing care activities. Understanding of the theoretical process of personal control over threatening events is expected to be increased.

BIBLIOGRAPHIC REFERENCES: Johnson, J.E., Fuller, S.S., Endress, M.P., and Rice, V,H. Altering patients' responses to surgery: An extension and replication. Research in Nursing and Health, 1978, 1(3), 111-121. Johnson, J.E., Rice, V.H., Fuller, S. S., and Endress, M.P. Sensory information, instruction in a coping strategy and recovery from surgery. Research in Nursing and Health, 1978, 1(1), 4-17.

11. INTENSIVE PSYCHOLOGICAL GROUP THERAPY IN CANCER PATIENTS AWARE OF THEIR DISEASE

Gualtieri, M. I., Pirolla, M. E., Centro de Oncologia Campinas, Depto. de Oncologia Clinica, *Rua Alberto de Salvo, 311, Barao Geraldo, Campinas 13100, Sao Paulo, Brazil*

OBJECTIVE: To improve the quality of life of the cancer patient, bringing about significant and lasting changes in his psychological state. To provide the patient with a more valuable self-image, positive feelings and expectations (life and death); to improve and increase interpersonal relationships; to improve and increase care of his own body; and bring about integration of psyche-body.

APPROACH: Treatment will consist basically of: 1) information through discussions about cancer - common physical and psychological problems; 2) relaxation based on the method of B. Gunther and P. Sandov; 3) support, psychological counselling, possible elaboration on conflicts, and identification of them through the techniques of group dynamics and reflection. Each discussion will combine relaxation and support in regard to the group needs, demands, and dynamics.

Possible changes in psychic state of patients undergoing treatment will be verified in the following manner; TAT tests, design test in personality diagnosis, directed interviewing before, during and after three months of treatment. These data will be compared with data gathered from an untreated control group.

The development of the cancer will be evaluated along with psychological state.

12. COGNITIVE-BEHAVIORAL ANALYSIS SYSTEM OF PSYCHOTHERAPY (C-BASP) APPLIED TO DEPRESSION IN AN ONCOLOGY POPULATION

West, B. L., Hall, R., U.S. Veterans Admin., Dept. of Medicine & Surgery, Medical Center, *3801 Junipero Serra Blvd., Palo Alto, California*, 94304, United States of America

The present study has been established to evaluate the benefits of a specific form of psychotherapy (the Cognitive-Behavioral System of Psychotherapy) in alleviating severe depression in cancer patients. Derived to restructure the patient's attitudes and behaviors in interpersonal settings, this treatment approach is a didactic therapy model which aids the patient in recognizing his unrealistic or inappropriate cognitions concerning his perceived ineffectiveness. Simultaneously, the patient learns to see his emotions in terms of how he thinks and behaves in given situations, particularly as these relate to his emotional response to the disease. The situationally appropriate evaluation and the introduction of more effective cognitive sets and emotional responses permits the patient to become more successful in controlling and managing his environment, thus permitting the patient to realize self-efficacy within the confines of his debilitating disease.

Lung cancer (carcinoma, sarcoma, oat cell) patients will be administered psychological tests (Beck Depression Inventory and Symptom Checklist-90) to evaluate the presence and severity of depression. Those patients with scores of two standard deviations above the mean will be randomly placed into either a therapy group or a waiting list control group. Patients in the therapy group, who consent to a short-term psychotherapy regime, will be seen for a total of 8 hours. Pre- and post-test scores, daily subjective measures and third party observations will be used to evaluate the efficacy of the treatment. The waiting list control group will be re-tested 6-8 weeks after the initial test administration.

13. PSYCHOSOCIAL SCREENING AND INTERVENTIONS IN CANCER CARE

Weisman, A. D., Worden, J. W., Sobel, H. J., Wingquist, D., Sampson, C. Z., Massachusetts General Hospital, Psychiatry Service, *32 Fruit St., Boston, Massachusetts*, 02114, United States of America

Two-thirds of newly diagnosed cancer patients were found to be coping reasonably well after periods of regular assessments up to 6 months after diagnosis. The remaining third were coping poorly with medical and nonmedical problems such as concerns about health and medical care, family, financial problems, work, parenting, and survival. Because not every patient requires psychosocial intervention, our aim has been to develop a screening procedure to identify those at risk of experiencing later emotional and social problems. The method is not completely tested, but as a result of preliminary findings, patients at risk are invited to take part in two types of brief intervention, one of which is based on the psychotherapy model, the other, on cognitive retraining.

Although cancer may have a deleterious effect on patients and families, this is not universally true. However, certain groups of vulnerable patients may need additional psychosocial assistance. Ongoing studies are intended to find out which patients require what kinds of help.

BIBLIOGRAPHIC REFERENCES: Weisman, Avery, D.: 'Psychoanalysis in Later Life,' Journal of Geriatric Psychiatry, 11(1), 1978, 51-55. Weisman, Avery D.: 'Coping with Illness,' in MGH Handbook of Liaison Psychiatry, T.P. Hackett (Ed.), St. Louis: C.V. Mosby Co., 1978.

14. PSYCHOLOGICAL AND FAMILIAL PRECURSORS OF CANCER

Thomas, C. B., Shaffer, J. W., Graves, P. M., Krush, A. J., Johns Hopkins University, School of Medicine, Dept. of Medicine, *725 N. Wolfe St., Baltimore, Maryland*, 21205, United States of America

This is a long-term prospective study, in progress 34 years, of a cohort of former medical students, now mostly physicians aged 40-59 years. Associations are being sought between the familial and psycho-biological characteristics measured in medical school and the occurrence of cancer in middle age.

15. COPING WITH CANCER AND THE INTERACTION OF THE PATIENT AND HIS SOCIAL ENVIRONMENT

Pruyn, J. F., Studicentrum voor Soc. Oncologie, *Dr. Molewaterplein 50, Rotterdam, Netherlands*

OBJECTIVE: Evaluation of several theories with regard to psychosocial aspects of the coping process for different types of cancer. These data are related with results of the interaction analysis which contains, among other things, variables of nonverbal behavior.

APPROACH: Patients with different types of cancer and in different stages are interviewed. Some patients are observed in various interaction situations.

PROGRESS: To test the theories, multivariate analyses will be used. For the interaction analysis several sequence models will be applied. (Ego defenses, anxiety, quality of life, behavior in the process of dying, self-esteem, etc., are some of the dependent variables.)

16. CONTROLLED ASSESSMENT OF CURRENT AND PAST PSYCHOPATHOLOGY IN MEN WITH TESTICULAR TUMORS

Gorzynski, J. G., Vugrin, D., Holland, J., Memorial Sloan Kettering Cancer Center, Psychiatry & Solid Tumor Services, *1275*

York Ave., New York, New York, 10021, United States of America

OBJECTIVE AND APPROACH: Developmental history and current and past psychopathology are assessed in men with germ cell non-seminomatous tumors. Current and past psychopathology scales (CAPPS) are used for the assessment purposes. Age matched men with leukemia are used as a control group. The scale has eight areas of current and eighteen areas of past psychopathology. Preliminary results indicate a higher degree of past psychopathology, particularly among men with early life onset of testicular cancer.

Generally, they have poor social adaptation, low professional drive, frequent history of drug abuse, and delayed puberty. Endocrine evaluation of possible impairment of hypothalamic-pituitary-gonadal axis in men with testicular tumors is being planned.

17. SUICIDE AMONG CANCER PATIENTS

Fox, B. H., U.S. Dept. of Health & Human Services, Public Health Service, National Inst. of Health, National Cancer Inst., Field Studies & Statistics Section, *9000 Rockville Pike, Bethesda, Maryland,* 20205, United States of America

Suicide rates among cancer patients were determined from the Connectict SEER Cancer Registry and compared with age-matched Connecticut State suicide rates to estimate relative risks. Among male cancer patients a two-fold risk was found, but no excess risk was found for females. For men, a greater risk was evident the first few years after diagnosis than later. Preliminary data, only partially controlled for other variables, suggest a slightly higher risk for ever-married than for never-married patients, and a clearly higher risk for patients with metastasized tumors than for those with localized tumors. Slightly greater risk appears in surgical patients than in those treated otherwise.

18. RECURRENT CANCER AND ITS PSYCHOSOCIAL CONSEQUENCES

Weisman, A. D., Worden, J. W., Massachusetts General Hospital, Psychiatry Service, *32 Fruit St., Boston, Massachusetts,* 02114, United States of America

The purpose of this study is: 1) to evaluate the psychosocial characteristics of patients with recurrent cancer, 2) to identify those recurrent patients who are at highest risk for emotional distress and poor coping, and 3) to test a screening procedure and two different short-term interventions which previously were proven effective in newly diagnosed patients. Our central hypothesis is that recurrence is more distressing than diagnosis of cancer and that appropriate interventions can significantly reduce levels of distress and fortify coping strategies, especially in case of patients screened as high risk.

Patients from the following cancer site groups will be studied: breast, colon, lung, malignant melanoma, Hodgkin's disease, female reproductive organs (cervix, ovary, uterus), and male genitourinary system (bladder, prostate, testes). These sites offer a wide variety of malignancies, prognoses, treatment modalities, and psychosocial issues. Patients will be assigned to one of three groups, two groups receiving intervention and one a non-intervened control group. Patients will be assessed through interview, rating scales, and psychological testing within the first month of recurrence and then at 2, 4, and 6 months post-recurrence. Interventions will take place following the initial assessment and will continue over a 4-week time period.

19. CANCER PATIENT RESPONSES TO PSYCHOSOCIAL VARIABLES

McCorkle, R., Benoliel, J. Q., Donaldson, G., University of Washington, School of Nursing, Dept. of Community Health Care Systems, *Seattle, Washington,* 98105, United States of America

The proposed study will develop and test a battery of instruments intended to identify ways in which patients cope (or fail to cope) with specific psychosocial variables associated with advanced cancer. A sample of ninety persons with advanced bronchogenic carcinoma will be compared with a control group of ninety persons with advanced cardiovascular heart disease. An attempt will be made to determine if persons with advanced lung cancer differ from persons with advanced heart disease according to physical-social responses, personal responses, coping responses, background factors, personality factors and family characteristics. Subjects will be tested on those psychosocial variables using interviews, questionnaires, self report, and behavioral observation.

BIBLIOGRAPHIC REFERENCES: Benoliel, Jeanne Q., Ruth McCorkle, and Katherine Young, Development of a Social Dependency Scale, Research in Nursing and Health, Vol. 3, 1980, pp. 3-10. McCorkle, Ruth, Non-obtrusive Measures in Clinical Nursing Research, The Second International Conference on Cancer Nursing, September, 1980, London, forthcoming in Nursing Mirror.

20. SEXUAL EFFECTS OF CERVICAL CANCER

Hoon, P. W., Hoon, E. F., Coleman, E. M., Ling, F. W., Martin, D. C., Weldson, S., University of Tennessee, Center for the Health Sciences, School of Medicine, Dept. of Psychiatry, *62 S. Dunlap St., Memphis, Tennessee,* 38103, United States of America

Numerous survey studies have indicated the existence of sexual dysfunctions among women who have cervical cancer. Unfortunately, their sexual needs have been largely ignored. A technology for cognitive and physiological assessment of sexual functioning has recently evolved. Therefore, using a control group outcome design, we propose to (1) determine the differential incidence of sexual dysfunctions among women who have varying degrees of cervical cancer and who undergo either hysterectomy or radiation therapy, (2) develop sex dysfunction treatment and determine its effectiveness for these women and (3) train medical and paramedical staff in dealing with the sexual problems of this population. A complete but concise assessment of sexual and personality functioning including physiological and cognitive measurements will be conducted at five different points in the diagnostic and treatment process.

21. QUALITY OF LIFE INDEX FOR EVALUATION OF CANCER PROGRAMS

Spitzer, W. O., Mount, B. M., McGill Cancer Research Centre, *3655 Drummond St., Montreal, Quebec,* H3G 1Y6, Canada

The investigators have developed a new index, designated the Quality of Life Index (QL Index), to evaluate the quality of life of cancer patients and patients with other serious chronic diseases. This index is a succinct data gathering instrument which can be either administered by physicians in approximately 1 minute or self-administered. It has only five items, each containing three categories.

The present project seeks to validate the index using concurrent and construct validity approaches. Observer variation and the sensitivity of the index will be ascertained mainly among cancer patients in various stages of disease.

22. QUALITY OF LIFE, MORBIDITY IN SURVIVORS AFTER DEFINITIVE RADIATION THERAPY

Kramer, S., Thomas Jefferson University, Jefferson Medical College, Dept. of Radiation Therapy & Nuclear Medicine, *1025 Walnut St., Philadelphia, Pennsylvania,* 19107, United States of America

This is part of a broader project. A summary of this subproject is not available.

23. SOCIAL SUPPORT AND ADAPTATION IN TERMINAL LUNG CANCER

Goldberg, R. J., Glicksman, A., Tull, R., Slaby, A., Leone, L., Riesenfeld, P., Worden, J. W., Rhode Island Hospital, Dept. of Psychiatry, *593 Eddy St., Providence, Rhode Island,* 02903, United States of America

The importance of social support has been recognized for both the development and progression of a variety of medical disorders. Yet, neither the content of social support nor its impact on terminal care has been carefully studied.

Currently, there are few systematic approaches to the development and evaluation of social support programs for terminal cancer patients. Furthermore, well meaning individuals, even when available, may not know how to provide or may have great difficulty undertaking support of a dying person. We will undertake a prospective study of the role of social support in the psychosocial adaptation of terminal lung cancer patients. We have the capability of following a sufficient number of such patients representing different levels of social support. Patients will be compared across three levels of support: Intermittent social service involvement, ongoing individual support usually

by a spouse, and ongoing individual support plus regular professional counselling supplied to the supporting individual.

We will employ standardized psychological assessments whenever possile. Data will be supplemented by semistructured interviews given by trained clinicians. Support counselling will be monitored to help standardize the intervention.

Approximately 180 patients will be evaluated every 6 weeks from the time of diagnosis to death. The duration of the study will be 3 years. If patients whose supporters receive counselling show better adaptation, this information is relevant for future terminal care programs. We intend to follow the impact of support counselling on the adjustment of the individual supporters after the patient's death.

24. COUNSELING INTERVENTION FOR CHEMOTHERAPY SIDE EFFECTS

Morrow, G. R., University of Rochester, School of Medicine & Dentistry, Dept. of Psychiatry, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

The effectiveness of behavioral counseling for relieving nausea and vomiting experienced in anticipation of chemotherapy treatment will be evaluated. Pilot data indicate that chemotherapeutic 'anticipatory nausea and vomiting' occur in 20% of patients.

Converging lines of evidence support the view that 'anticipatory nausea and vomiting' is a learned or conditioned behavior. Extensive experiments have established 'Systematic Desensitization' as both a precise and effective counseling technique for counter-conditioning maladaptive learned behaviors.

Over 220 new patients a year enter chemotherapy research trials at the University of Rochester Cancer Research Center. These patients will be screened for 'anticipatory nausea and vomiting'. A sample size of 27 in each of the three arms of the experimental design will assure conventionally assumed levels of protection for both type 1 (alpha equals .05) and type 2 (power equals 0.80) experimental errors.

Criticisms of non-random assignment and lack of control over intervention credibility and expectancy are addressed in the experimental design. Patients will be randomly assigned to one of three groups: (1) 'Systematic Desensitization' (experimental group), (2) a control procedure for identification and modification of pretreatment eating behaviors which, from pilot data, is seen as equal in expectancy and credibility to 'Systematic Desensitization', and (3) non-intervention control.

The proposed study has the anticipated long-term benefit of improving patient compliance in both best current treatment (Phase IV) and randomized (Phase III) treatment research trials.

BIBLIOGRAPHIC REFERENCES: Derogatis, L.R., Feldstein, M.F., Morrow, G.R., and others. A survey of psychotropic drug prescriptions in an oncology population. Cancer, 1979, 44, 1919-1929. Novack, D.H., Plumer, R., Smith, R.L., Ochitill, H., Morrow, G.R. and Bennett, J.M. Changes in physicians' attitudes toward telling the cancer patients. Journal of the American Medical Association, 1979. 241:(9), 897-900.

25. COUNSELING CANCER PATIENTS IN COPING STRATEGIES

Houts, P. S., Miller, R. W., Curry, S. L., Pennsylvania State University, Milton S. Hershey Medical Center, School of Medicine, Dept. of Behavioral Science, *500 University Dr., Hershey, Pennsylvania*, 17033, United States of America

The fact that many cancer patients experience considerable psychological stress as a result of their illness is well-known and documented. Weisman and Worden (1977) as well as other investigators have shown that anxiety and depression are common and frequently peak within the first six weeks of treatment. This study proposes to counsel a group of gynecologic cancer patients during the six weeks following initial diagnosis and to test whether anxiety and depression are lessened as a result. The counseling techniques to be used include having the patient view videotapes where successfully adapting cancer patients will model (demonstrate) coping strategies which have helped them control their anxiety and depression. Coping strategies will include those identified as effective in earlier research on coping in cancer patients. Counselors will help each patient identify those coping strategies which would be most appropriate and helpful for her and to set individual goals for using these strategies in everyday life.

Modeling and goal setting have been shown to be effective counseling techniques for reducing anxiety and depression in patients with a wide range of medical problems. This study is unique in that it systematically applies these counseling techniques to the treatment of anxiety and depression in cancer patients.

Two control groups will be utilized: 1) a group who receive standard treatment by the gynecologic oncology clinic staff, including individual attention to their psychological needs as they arise, and 2) a group who receive standard clinic treatment as in 1) above, plus attendance at an information group. Group 2) will assess the effects of receiving additional attention but without individualized counseling, modeling and goal setting which occur in the experimental group.

26. COUNSELING TECHNIQUES FOR CANCER PATIENTS

Watson, P. G., Anthony, W. A., Spaniol, L., Myers, B., Boston University, School of Nursing, Dept. of Rehabilitation Nursing, *635 Commonwealth Ave., Boston, Massachusetts*, 02215, United States of America

The present study is designed to explore the effects of short-term supportive personal adjustment counseling, during the post-operative period, on the problems of low self-esteem and negative self-worth in patients undergoing ostomy because of cancer. Approximately three Boston area hospitals will be used to obtain subjects for the study. Individuals entering the hospitals for cancer surgery (ostomy) who agree to participate in the study will be alternately assigned to a treatment or control group. Only those patients with bladder or colorectal cancer for whom surgery is considered corrective rather than palliative will be considered for inclusion in the study. Since the patient problems cited above are largely reflected in the self-concept, this dimension will be measured in all subjects following surgery. Each treatment group will then receive one-to-one short-term supportive counseling consisting of four one-hour sessions provided by a skilled rehabilitation counselor. Communication skills of the counselors applying the treatment will be pre-assessed by use of the Carkhuff Communication Rating Scale. Counseling will focus on the patient's perceptions of the ostomy-cancer experience and its perceived effects on self-concept and future life experiences. Self-concept will again be measured, in all subjects, just prior to discharge. Sutherland, et al., 1952, identified problems of low self-esteem and negative self-worth in colostomy patients. Their findings have subsequently been supported by other investigators (Orbach and Tallent 1965, Druss, et al. 1969, Orbach 1974). This study assumes the existence of such problems in 'ostomy' cancer patients following surgery. The study is expected to show a significantly positive alteration of self-concept in subjects receiving the counseling intervention, with no change in self-concept in control group subjects. Following data collection, the data will be subjected to statistical analysis and evaluation. The results will then be reported accordingly.

27. COUNSELING TECHNIQUES FOR CANCER PATIENTS

Kohorn, E. I., Cain, E., Breslin, R., Schwartz, P. E., Quinlan, D., Fischer, D., Keating, T., Yale University, School of Medicine, Dept. of Obstetrics & Gynecology, *333 Cedar St., New Haven, Connecticut*, 06510, United States of America

The proposed project will study modes of counseling for female patients with cancer of the reproductive organs. Such patients are particularly vulnerable to anxiety, depression and loss of self-esteem. A counseling team comprised of a physician, nurse and social worker can combat such psychological symptoms. Fortunately, gynecological cancer patients seem to have strikingly similar needs for counseling and a common need to meet and talk with other cancer patients. A group counseling format, suitably tailored, can fulfill these needs simultaneously. The particular technique that has evolved through experience at Yale-New Haven Hospital is termed thematic group counseling. The eight counseling sessions focus on information about cancer provided by medical staff and positive health strategies such as progressive relaxation, diet and exercise. Thus the group offers patients concrete guidance while utilizing a therapeutic mode of mutual support. In a group, patients share fears, anxieties and questions: they are not alone or unique in their illness. Reticent

members of the group gain as they identify with those who are more verbal. The repetitive nature of group interaction promotes the integration of information, and use of positive health strategies. Patients support each other in adjustment to physical changes and the process of setting goals for their future.

The project will compare this technique with the more costly and possibly less effective individual counseling. Ninety patients will participate, each in one of three counseling procedures: thematic group counseling, individual counseling, and standard counseling. The third group will actually serve as an attention-placebo control group. The psychological state of patients will be assessed before counseling, immediately after counseling, and one year later by means of four instruments such as the Hamilton Anxiety-Depression Scale and the Social Adjustment Scale. The information derived from this study has potential benefit for cancer patients and others with chronic illness.

28. REGIONAL DEVELOPMENT OF ONCOLOGIC SOCIAL WORK SKILLS

Stonberg, M. F., Braun, J. L., Deal, A. B., Sidney Farber Cancer Center Inc., *44 Binney St., Boston, Massachusetts,* 02115, United States of America

The Social Work Oncology Group, (SWOG) is made up of social workers concerned with the social and emotional problems encountered by cancer patients and their families.

Social workers who counsel cancer patients have special needs. SWOG was formed in response to the need to exchange ideas, to improve professional competence and to form a link between community agencies and hospitals. Cancer patients spend more time with their families in the community than they do in the hospital; thus community-based social workers are also involved in their care. Through improvement of the skills of all social workers in the field of cancer patient counseling, the patient and family benefit.

The SWOG programs includes monthly meetings and a newsletter, symposia and the week-long 'Cancer and Social Work.' SWOG also acts as a pressure group for political action on behalf of cancer patients. Membership now numbers over 2000.

29. PSYCHOSOCIAL COLLABORATIVE GROUP FOR CANCER CONTROL

Schmale, A. H., Derogatis, L., Holland, J., Morrow, G., Fetting, J., Penman, D., University of Rochester, School of Medicine & Dentistry, Dept. of Medicine, *601 Elmwood Ave., Rochester, New York,* 14627, United States of America

Three investigative units and a Resource Center unit for management of data are joined together in a Psychosocial Oncology Collaborative Group (PSYCOG). Instruments for measuring psychosocial adjustment and psychopathology associated with various diseases, treatments and follow-up complications are under study. Videotaped interviews, informed consent procedures and prescription of psychotropic drugs have been the focus of the studies to date. Currently, protocols are being drafted to study the prevalence of depression and the effects of an antidepressant on significant levels of chronic depression and pain.

30. GROUP TECHNIQUE IN OUTPATIENT CANCER CARE (HSR AND D)

Bateman, J. L., U.S. Veterans Admin., Dept. of Medicine & Surgery, Medical Center, Nuclear Medicine Service, *Middleville Rd., Northport, New York,* 11768, United States of America

The purpose of this proposal is to acquire statistical information concerning the reduction of anxiety and depression in a cancer clinic utilizing the group discussion technique as compared with a similar clinic which does not. The response of patients to medical treatment is increasingly recognized as being influenced by their morale or, more specifically, their desire to improve. The latter can be enhanced by a favorable atmosphere at the medical facility.

A weekly one hour discussion involving patients, relatives and personnel is designed to utilize the interval between drawing of blood samples and the reports of 'blood counts' at which time patients are examined and treated by a physician. The discussion format is informal and non-structured in nature with periodic tactful guidance by the group director, a clinical psychologist. Improved interaction between patients, relatives and medical personnel is expected through participation in the group. If the hypothesis can be supported statistically, extrapolation of this technique to other cancer clinics would appear worthwhile, and trial of the technique in clinics dealing with other chronic diseases will be of value.

The first year and a half of the two-year grant has been completed with 46 cancer patients and their families involved. Analysis of psychological testing and interview data in conjunction with hormonal studies will determine the effectiveness of the intervention.

31. DEVELOPMENTAL WORK ON THE SOCIAL SCIENCE OF CANCER

Lindblom, C. E., Yale University, School of Medicine, *333 Cedar St., New Haven, Connecticut,* 06510, United States of America

This is part of a broader project. A summary of this subproject is not available.

C. HOSPICE AND HOME CARE PROGRAMS

32. IMPLEMENTATION OF THE HOSPICE CONCEPT FOR TERMINAL CANCER PATIENTS

Wernsing, D. H., Dayton, C., Riverside Hospital Inc., Hospice Division, *Powerville Rd., Boonton, New Jersey,* 07005, United States of America

OBJECTIVE: Provide for a limited demonstration program to field test, in the United States, the St. Christopher's Hospice Concept for care of the terminal patient. Using St. Christopher's in England as a model, the hospice program will consist of two major components: a large home-care program admitting a minimum of 100-125 patients annually and a 15-24 bed in-patient facility.

33. HOSPICE CONCEPT FOR TERMINAL CANCER PATIENTS

Baker, T. H., Kaiser Foundation Research Inst., *1956 Webster St., Room 310 B, Oakland, California,* 94612, United States of America

The objective of this procurement is to provide for a limited demonstration program to field test, in the United States, the St. Christopher's Hospice Concept for Care of the Terminal Cancer Patient. Using St. Christopher's in England as a model, the hospice program shall consist of two major components: A large home-care program admitting a minimum of 150 patients annually; a 15-bed in-patient facility.

34. HOME CARE FOR THE TERMINALLY ILL - A STUDY OF 3 MODELS

Blues, A. G., Sams, G., Cronin, J., Green, T., Farrell, V., Olver, R., Walzer, K., University of Kentucky, School of Medicine, *Limestone & Euclid, Lexington, Kentucky,* 40506, United States of America

This study is to define and evaluate home care for the terminally ill within three community-based models - the public home health agency, the private home health agency and the hospital-based home health agency. These study results in turn will be compared with hospital costs for terminal care within the same geographic area. The results of this study, which could be generalized to other areas of rural America, will be based on data collected from patients, families, and care givers in six Kentucky hospice programs. These results will also be compared to a population of terminally ill hospital patients matched to hospice participants by demographic, medical and management data. The three broad areas of analysis will be: 1) Quality of patient/family care; 2) professional staff education and support, and; 3) program cost effectiveness.

35. IMPROVED CANCER CARE THROUGH A HOME PROGRAM

Vinciguerra, V. P., Budman, D. R., McCartney, J. R., North Shore University Hospital, Dept. of Medicine, *300 Community Dr., Manhasset, New York,* 11030, United States of America

The optimal pattern of cancer care for patients failing standard therapy remains unsettled. Three options are now available in the United States for terminal care: 1. Hospitalization, 2. hospice or chronic care institutionalization, or 3. home care.

This study is designed to evaluate the choice of hospitalization vs. home care with optimal medical support to determine whether: 1. Home care is cost-effective. 2. Psychological adjustment to the illness by both family and patient are modified by pattern of care. 3. Survival and quality of life are enhanced by home care. 4. Narcotic usage is modified by environment.

Patients with evidence of progressive cancer in spite of optimal medical therapy will be studied prospectively by a physician, social worker, and dietician to determine whether or not home care is beneficial. Standard techniques such as the Karnofsky Index, profile of mood states, multiple effect adjective check list and caloric count will be applied to equivalent groups of patients who receive medical support either in the hospital or at home.

36. CANCER CENTER SUPPORT GRANT (COMPREHENSIVE)

Moertel, C. G., Ahmann, D. L., Douglass, B. E., Ivins, J. C., Kovach, J. S., Earle, J. D., Gilchrist, G. S., O'Fallon, J. R., Mayo Foundation, Dept. of Oncology, *200 1st St. S.W., Rochester, Minnesota,* 55901, United States of America

The specific objectives of the Mayo Comprehensive Cancer Center over the next three years are the following: 1. To continue development of basic science programs and to promote a functional 'centerness' among our laboratories through establishment of appropriate shared resources. 2. To enhance programs of clinical cancer research. 3. To establish a cancer pharmacology laboratory as a shared resource for our many drug-development programs. 4. To continue revitalization of our radiation therapy program with particular emphasis on the establishment of a radiation laboratory. 5. To strengthen cancer research statistics and data handling and to provide a shared statistical resource in support of research programs. 6. To provide leadership for cancer programs in our community and region and to develop a 'hospice concept' in a setting which would provide for meaningful evaluation and clinical research programs in meeting the symptomatic, supportive and personal needs of the cancer patient. 7. To continue efforts at development and evaluation of cancer detection methods. 8. To continue development of a coordinated program of cancer training and demonstration at the Mayo Clinic. 9. To continue and increase our active participation in the National Cancer Program.

D. OTHER BROAD CARE AND REHABILITATION PROGRAMS

37. THE DEVELOPMENT AND TESTING OF A REGIONAL CANCER CARE TREATMENT SYSTEM IN MANITOBA

Schipper, H., Levitt, M., University of Manitoba, School of Medicine, Dept. of Medicine, *770 Bannatyne Ave., Winnipeg, Manitoba,* R3E 0W3, Canada

OBJECTIVE: To develop and test a regional cancer care treatment system in Manitoba.

APPROACH: Within recent years advances have occurred in the treatment of cancer which require improvement of education, communication and other aspects of care delivery. The purpose of the current project is to simultaneously develop and assess the establishment of a decentralized cancer care delivery system throughout the province of Manitoba. The purpose of decentralization is to reduce the morbidity related to cancer treatment in cancer patients not residing near a large care center, to upgrade the education of non-center medical personnel with respect to current therapies, and to improve communications between the Cancer Center and satellites through the development of appropriate computer technology. Also included in the project is the objective of developing 'an instrument' with which morbidity and quality of life by be accurately determined in the patients participating in this program. Full-time personnel participating in this program include a biostatistician-epidemiologist, research nurse, and data manager. The result of the project will be the establishment of improved communication and registry systems, quantitative evaluation of aspects of patient care such as survival and 'quality of survival' within the program, and the establishment of an instrument whereby quality of survival may be accurately measured.

PROGRESS REPORT: The cancer care delivery network has been established and the process of data retrieval and construction of the research instrument has begun.

38. EASTERN COOPERATIVE ONCOLOGY GROUP

Creech, R. H., Engstrom, P. F., Strawitz, J., Richter, M., Fox Chase Cancer Center, *7701 Burholme Ave., Philadelphia, Pennsylvania,* 19111, United States of America

Through the Eastern Cooperative Oncology Group (E.C.O.G.), The American Oncologic Hospital (A.O.H.) of the Fox Chase Cancer Center is attempting to improve the quality and duration of cancer patients' lives by developing and scientifically evaluating the most effective treatment regimens for all types of cancer. The A.O.H. has four principal objectives as related to the E.C.O.G.: 1. To maintain high patient accrual on E.C.O.G. protocols by organizing disease-oriented multidisciplinary committees which will be responsible for developing protocol priorities and treating patients with malignancies being studied by the E.C.O.G. and by the A.O.H. 2. To maintain the high quality of protocol patient evaluation by delegating responsibility for data management to one surgical, one radiation therapy, and two medical protocol coordinators. 3. To pilot multimodal surgical, radiation therapy, and chemotherapy trials, particularly in lung, gastrointestinal, and head and neck cancer. 4. To participate in protocol development through E.C.O.G. committee membership.

39. RURAL ONCOLOGY DEMONSTRATION PROJECT

Wasson, A. A., Campbell, P., DeSantis, L., Frontier Nursing Service Inc., *Hyden, Kentucky,* 41749, United States of America

The proposed project will demonstrate the ability of the rural, community-based health provider to deliver quality, up-to-date cancer care utilizing organized local oncology support services and appropriate, coordinated tertiary referral services. Through the use of a nurse-oncologist and health educator, the Frontier Nursing Service will provide organized professional cancer education, develop specialized cancer nursing services, improve cancer data management through the maintenance of a tumor registry, coordinate a local hospice program, and improve referral arrangements with university-based tertiary centers so as to improve communications and provide appropriate levels of care while minimizing disruption to the rural patient. Formal evaluation of the project's impact on patterns of patient care, community attitudes and professional skills will be undertaken by contract to a university-based team.

40. TUMOR CONTROL CENTER PROGRAM

Whitney, L. W., Fedewa, T. C., Prelick, R., Tully, J. P., Sachtleben, C. R., Thompson, J. R., Letang, B. W., Wilmington Medical Center, *501 W. 14th St., Wilmington, Delaware,* 19899, United States of America

This application proposes the expansion of a cooperative community cancer control effort involving all the non-government hospitals and all individuals and institutions (groups) interested in the prevention, screening, treatment and rehabilitation of cancer patients in the State of Delaware and beyond. The aim is to develop multi-disciplinary cancer programs in each hospital involving locally determined multidisciplinary Tumor Clinics and Conferences funded and planned by the local hospitals, and have these programs certified by the American College of Surgeons. The Delaware Cancer Network will provide for consultation, demonstration, planning and assistance in programming. It will also continue to provide oncological specialists for consultation and education on a regularly scheduled basis to all participating hospitals. The project promotes 'state-of-the-art' patient care as close to the patient's home as possible and allows introduction and continuation of the best treatment choices as exemplified by the availability of cooperative group protocols throughout the State. Multidisciplinary management includes nursing, social work, pastoral care and rehabilitation specialties. This includes pre- and postoperative planning. Work focused on vocational training and terminal care will continue. Affiliations are being improved and developed with appropriate community agencies and patient groups, government hospitals and health facilities in the State, as well as nearby hospitals in adjacent states. A major aim will be to continue to assist affiliated hospitals in developing their own programs and recruiting their own personnel.

41. DEMONSTRATION OF CANCER REHABILITATION FACILITIES

Grover, P. L., Inst. for Cancer Research, *7701 Burholme Ave., Philadelphia, Pennsylvania*, 19111, United States of America

The initial work scope was for 'The Development and Utilization of Rehabilitation and/or Continuing Care Resources and Services'. This renewal will require the Contractor to develop an evaluation design for that initial effort and, upon approval of the U.S. Government, implement that design.

42. REGIONAL ACTIVITIES - LAC-USC COMPREHENSIVE CANCER CENTER

McKenna, R. J., Irwin, L. E., Hisserich, J. C., Hammond, D., O'Brien, R., Henderson, B. E., University of Southern California, School of Medicine, Dept. of Surgery, *2025 Zonal Ave., Los Angeles, California*, 90033, United States of America

The Regional Activities Program (RAP) is the official cancer control arm of the Los Angeles County - University of Southern California Comphrehensive Cancer Center.

It is the goal of the Regional Activities Program to develop and demonstrate techniques of transferring improved methods of cancer prevention, detection, diagnosis, treatment, continuing care, and rehabilitation from the research environment to the health professionals, organization, institutions, agencies and general public in the community. This goal is accomplished directly through the development of education, communication and service programs by the RAP that are provided and/or developed with the community and indirectly by supporting, encouraging and facilitating cancer control activities of other organizations, groups and individuals in the community.

Through the Regional Activities Program, the Cancer Center is attempting to provide leadership in the development of programs involving active participation of the health practitioners, organizations, institutions, and agencies in the community. The Cancer Center in this matter, is attempting to serve as a focal point for community efforts to assure the widespread use of the best available methods for early detection and treatment of cancer, collection of data useful in the prevention and cure of cancer, and dissemination, both at the lay and professional levels.

This is a renewal grant application that requests continuation of funding for those successful programs implemented by the Regional Program which require partial or total funding in order to continue. During the initial grant period many cancer control projects were implemented by the RAP, some of which have been taken over and supported with outside sources of funding. Others are only partially supported by outside funds and require additional funding in order to continue. An administrative unit in the RAP coordinates all the community activities of the Cancer Center, engages in planning and developing new concepts and programs for implementation in the community, and evaluates the success of the various projects under RAP control.

43. NORTHWEST OHIO CANCER NETWORK OUTREACH PROGRAM

Skeel, R. T., Schafer, R. L., Smith, M. R., Johns, J. D., Petrasek, D. M., Stoll, R. K., Robinson, M. G., Medical College of Ohio at Toledo, School of Medicine, Dept. of Medicine, *Box 6190, Toledo, Ohio*, 43614, United States of America

This application requests support from the National Cancer Institute's Division of Cancer Control and Rehabilitation to continue the development of an area-wide community outreach program in cancer control and rehabilitation organized through the Northwest Ohio Cancer Network, which brings together hospitals, cancer specialists, community and governmental agencies, and other relevant institutions. Its aim is to bring to northwest Ohio the most effective prevention, detection, diagnosis, pretreatment evaluation, treatment and rehabilitation management presently available.

Planning and developmental activities supported by the funds requested will continue to be carried out jointly by the Medical College of Ohio, through the MCO Cancer Program and the Northwest Ohio Cancer Network. These organizations will define existing and potential resources; analyze the possible scope and organization of cancer activities; and identify major objectives, problems, and realistic options to achieve goals.

Major elements of the continued planning and development phases include identifying the common and particular needs of the diverse communities in the area, designing programs to meet these needs within the scope of the NCI Cancer Control mission; determining appropriate roles for the Medical College of Ohio and other organizations in these programs; developing the means to implement effective plans while maintaining developmental and functional balance in a maturing medical school, and establishing methods for evaluation of progress toward defined objectives.

44. MCDOWELL COMMUNITY OUTREACH DEVELOPMENT PROGRAM

Goldenberg, D. M., Cook, W., Cronin, J., DeSimone, P., Fish, B., Geller, E., Hagihara, P., Heisler, J., Hutton, J., Gockerman, J., Blues, A., Osborne, J., Ephraim McDowell Community Cancer Network Inc., *915 S. Limestone St., Lexington, Kentucky*, 40503, United States of America

The proposed grant application requests continued support of the Ephraim McDowell Community Cancer Network's cancer control outreach development program. The program is founded upon the District Cancer Council Model which seeks to locally organize medical, lay and agency representatives who together provide guidance and resources to identify and implement cancer control projects for that specific locality. Continued support for the core staff is requested which includes three existing regional offices in eastern Kentucky and the establishment of three additional offices in western Kentucky to serve the residents of this area who have requested McDowell to expand. Activities are included across intervention areas - Prevention-Environmental Health Hotline, and Environmental Brochure Series; Screening and Detection Cancer Screening through health departments, in-service education for nurses, and a public information campaign utilizing the cooperative extension model; treatment - development of cancer programs in Community Hospitals, tumor registry activities, education for health professionals, and continuing care for the terminally ill through a regional outpatient hospice program. These are developing and ongoing activities of the Ephraim McDowell Community Cancer Network, Inc.

45. UCLA CANCER CONTROL DEVELOPMENTAL OUTREACH GRANT

Cullen, J. W., University of California, Los Angeles Campus, School of Medicine, Center for the Health Sciences, *2025 Zonal Ave., Los Angeles, California*, 90024, United States of America

This is a renewal application for programmatic and administrative core support for the Division of Cancer Control, UCLA Jonsson Comprehensive Cancer Center. The specific aims and objectives of this grant focus on the planning, evaluation, administration and program maintenance needs of the Division in order to manage the Cancer Control Program of this Center. The objectives of the application are the following: 1. To demonstrate need for core support by describing programs/activities in selected cancer control intervention which require personnel and other core resources for implementation. 2. To secure the personnel necessary to continue the planning, development and implementation of cancer control programs in prevention, psychosocial rehabilitation, and professional and public education. 3. To establish evaluation and epidemiology core support services to assist in the planning, organization and implementation of all cancer control activities in the specific intervention areas noted above.

46. NUTRITIONAL SUPPORT AND REHABILITATION OF CANCER PATIENTS

Butterworth, C. E., University of Alabama in Birmingham, School of Community & Allied Health, Dept. of Nutrition Sciences, *Tidwell Hall BOO6, University Station, Birmingham, Alabama*, 35294, United States of America

This is part of a broader project. A summary of this subproject is not available.

47. NUTRITIONAL SUPPORT AND REHABILITATION FOR CANCER PATIENTS

Butterworth, C. E., Krumdieck, C. L., Weinsier, R. L., Mitchell, C., University of Alabama in Birmingham, School of Community & Allied Health, Dept. of Nutrition Sciences, *Tidwell Hall*

BOO6, University Station, Birmingham, Alabama, 35294, United States of America

Observations made since the inception of this project in 1976 indicate a very high prevalence of nutritional complications among patients hospitalized for cancer. These include weight loss, protein-calorie malnutrition and multiple vitamin deficiencies. Until recently it was not possible to document the extent of these complications statistically, nor to provide information on the effectiveness of nutritional intervention. For obvious moral and ethical reasons it has not been possible to allow nutritional imbalance to remain untreated once it has been recognized.

It is now apparent that approximately one-half of patients with identifiable nutrition complications arising as a result of cancer or its therapy can receive significant benefit from aggressive nutritional intervention.

During the 1980/81 year, we propose to continue to develop means to identify and treat these patients. One goal is to make the assessment of nutritional status a part of every patient's evaluation. Another goal is to create enhanced physician awareness of the role of nutrition in support of cancer patients. A third goal is continued strengthening of a nutrition-support team to aid in delivery of specialized care. The fourth goal is to collect data for computerized storage, retrieval, and analysis to study correlations between nutrition parameters, therapy, and outcome.

48. DEVELOPMENTAL CANCER CONTROL PROGRAM (WISCONSIN)

Johnson, R. O., Tracy, P. C., Habeck, R., Camilli, A. E., Mostafa, S., Davidson, D. J., Friedman, R. B., Crowley, J. J., Love, R. R., University of Wisconsin, Madison Campus, Medical School, Dept. of Human Oncology/Surgery, *450 N. Randall Ave., Madison, Wisconsin,* 53706, United States of America

GOAL: To decrease the morbidity and mortality from cancer in Wisconsin.

OBJECTIVES: 1. Planning and Legislation. To develop a comprehensive plan for control of cancer in Wisconsin and a strategy for the plan's enactment into formal legislation. 2. Epidemiology and Evaluation. To further develop and maintain a strong WCCC biometry component to aid in the planning, implementation and evaluation of Wisconsin cancer control programs. 3. Public Information and Education. To develop and promote needed programs to inform the public about cancer. 4. Professional Information and Education. To conduct necessary and valuable programs to inform and educate health professionals about cancer. 5. Prevention and Early Detection. To promote optimal practices in cancer prevention and early detection. 6. Diagnosis and Treatment. To organize regional, cooperative, site-oriented programs, networks and task forces dedicated to improving the diagnosis and treatment of cancer. 7. Rehabilitation and Continuing Care. By demonstration, to inform the public and professional communities in Wisconsin about effective rehabilitation and continuing care possibilities and practices for cancer patients. 8. New Projects Development. To catalyze, encourage and support the development of new ideas in cancer control.

49. CANCER CONTROL DEVELOPMENT AND SUPPORT GRANT

Lowman, J. T., Adams, S. W., Lansky, S., Althauser, C. J., University of Kansas, Medical Center, School of Medicine, Dept. of Pediatrics, *39th St. & Rainbow Blvd., Kansas City, Kansas,* 66103, United States of America

This grant provides additional support for the planning and developmental activities of a center-based cancer control program. New interventions in the areas of early detection, prevention, treatment, psychosocial rehabilitation, care for the terminal patient, physician and lay public information/education will be evaluated and appropriate interventions planned. Emphasis is placed on meeting regional needs in a primarily rural setting, and developing programs to aid in the transfer of recent advances in cancer medicine to the practicing community physicians.

Through this program, an in-depth inventory of cancer control programming in the region will be conducted, evaluating health status of residents, oncology, manpower, demographic variables, existing and planned treatment capabilities, and so on. Network possibilities for detection and prevention will be examined as well.

Further development of the team approach to the psycological rehabilitation of cancer patients is ongoing in this program, including establishment of new programs at community hospitals and increasing emphasis on nurse involvement.

50. MEASURING PHYSICAL FUNCTION IN CANCER REHABILITATION

Grover, P. L., Herman, R., Gleason, T. C., Jones, W. L., Biele, J., Fox Chase Cancer Center, *7701 Burholme Ave., Philadelphia, Pennsylvania,* 19111, United States of America

Outcome evaluation of rehabilitation therapy in general, and cancer patient rehabilitation in particular, is problematic because of a lack of valid and reliable measures. This study addresses problems of measuring one aspect of rehabilitation - physical functioning. Traditionally, an index of Activities of Daily Living (ADL) has been used to assess physical functioning. Despite widespread application, ADLs in use lack unity of conceptual basis, content, and implementation procedures.

Initially, this study sought to clarify the conceptual background of ADLs through a national survey of over 2,000 rehabilitation professionals (physiatrists, physical therapists, occupational therapists, rehabilitation nurses). Three issues were addressed in this survey: 1) Specification of important functional categories in the assessment of overall physical functioning; 2) specification of the minimal combination of component tasks for adequate assessment of each functional category; 3) determination of the degree of unity in the conception of overall physical functioning among rehabilitation professionals. Preliminary analysis suggests substantial unity of this concept. Further analyses to resolve the above issues are in process.

Alternative strategies will be developed for scoring, weighting and aggregating the resultant measure. A second national survey of rehabilitation professionals will be conducted to identify the optimal strategy, considering ease of implementation, clinical significance and sensitivity of the measure to small changes in functional levels of patients.

51. CLINICAL CANCER SERVICES REHABILITATION

Mellette, S. J., Virginia Commonwealth University, Medical College of Virginia, Dept. of Medicine, *1200 E. Broad St., Richmond, Virginia,* 23298, United States of America

This is part of a broader project. A summary of this subproject is not available.

52. SOCIAL EPIDEMIOLOGY OF CANCER CARE

Francis, A. M., Polissar, L., Sparkman, D., Medwell, S., Fred Hutchinson Cancer Research Center, *1124 Columbia St., Seattle, Washington,* 98104, United States of America

The purpose is to collect information about cancer patients regarding problems and the resources used for their care. This study will provide useful information for the planning of health services, determination of health manpower requirements and the planning of health care professional education. It will describe the patterns of care received following diagnosis for colorectal cancer patients, the relation between these patterns and patient and provider characteristics.

53. CANCER REHABILITATION PROGRAM

Chao, E. Y., Sim, F. H., Pritchard, D. J., An, K., Laughman, R. K., Tanaka, M., Mayo Foundation, Dept. of Orthopedics, *200 1st St. S.W., Rochester, Minnesota,* 55901, United States of America

Primary bone tumors present the surgeon not only with the problem of eradication of the lesion but also with restoration of normal extremity function. Though amputation sometimes is necessary, a wide variety of osseous lesions are amendable by radical en bloc resection and prosthetic bone and joint replacement. The functional requirements for such replacement are more stringent than for standard joint replacement. Many of the related problems are of a biomechanical nature and have to be studied under the close collaboration of many disciplines. The objectives of this project are: 1) To establish proper design guidelines for such custom implants, 2) to apply bone ingrowth materials to the prosthesis to obtain more secure fixation without the use of bone cement, 3) to analyze the change in joint function due to soft tissue alteration, and 4) to quantitate functional deficits for the improvement of rehabilitative programs

for postoperative care. The anatomical regions include the hip and proximal femur, the knee with either the distal femur or proximal tibia, the proximal humerus, and any segment of long bone away from the joint. Stress analysis based on theoretical and experimental methods will be used to ensure the necessary strength requirement in the prosthesis-bone system. Objective gait analysis and joint strength tests will be utilized to assess the functional performance of the patients after custom tumor prosthetic replacement. The results of this study should provide an effective treatment alternative for primary bone tumor patients. Such a method can also be used for metastatic cancer patients with bone lesions to extend their functional life and reduce nursing problems. Experience gained here would assist in the management of patients with failed regular total joints which must be salvaged due to substantial bone loss.

BIBLIOGRAPHIC REFERENCES: Sim, F.H., Chao, E.Y., Pritchard, D.J., Salzer, M.: Replacement of the Proximal Humerus with a Ceramic Prosthesis: A Preliminary Report. To appear in the October issue of Clinical Orthopedics and Related Research, 1979, in press. Sim, F.H., Chao, E.Y.: Prosthetic Replacement of the Knee and a Large Segment of Femur and Tibia. To appear in the American Journal of Bone and Joint Surgery. October 1979, in press.

54. CANCER REHABILITATION

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This is part of a broader project. A summary of this subproject is not available.

II. PATIENT REHABILITATION AND PSYCHOSOCIAL FACTORS IN SPECIFIC CANCER POPULATIONS

A. CARE, REHABILITATION, AND PSYCHOSOCIAL ASPECTS OF NEOPLASTIC DISEASE IN CHILDREN

55. PSYCHOLOGICAL AND SOCIAL CONSEQUENCES OF CHILDHOOD LEUKEMIA

Maguire, G. P., Comaroff, J., Morris Jones, P., Withington Hospital, Dept. of Psychiatry, *West Didsbury, Manchester M20 8LR, England, United Kingdom*

OBJECTIVES: 1. To determine the incidence of psychological and social problems in parents of children who are being treated for leukemia in the first 12 months after diagnosis. 2. To compare this with the incidence of such problems in parents with healthy children. 3. To determine the factors that determine which parents develop psychological and social problems.

APPROACH: Systematic semistructured interviews with each patient in the home shortly after diagnosis and 12 months later. Each interview is tape-recorded to allow independent checking and coding.

PROGRESS: The project is nearing completion. The results indicate that serious problems can develop and the provision of counselling could do much to help parents adjust to the disease and its treatments.

56. PAIN AND ANXIETY IN CHILDREN WITH ACUTE LEUKEMIA

Kellerman, J., Children's Hospital of Los Angeles, Dept. of Pediatrics, *4650 Sunset Blvd., Los Angeles, California,* 90054, United States of America

This study was designed to evaluate the efficacy of training in hypnosis in reducing pain and anxiety in children with acute lymphoblastic leukemia (ALL) undergoing bone marrow aspirations (BMA's). Patients/subjects were selected from the population of children between the ages of 6 and 10 years of age with ALL, receiving outpatient treatment in the Division of Hematology-Oncology at Children's Hospital of Los Angeles. The design calls for randomization of 40 patients to either hypnosis or attention/placebo groups, with stratification of the sample by sex. Baseline measures are collected along four dimensions: behavioral observation, nurse ratings, and structured self-ratings of pain and anxiety. Two training sessions are offered post-baseline and prior to the next outpatient bone marrow aspiration. Further sessions are provided prior to each of three post-baseline bone marrow aspirations and response to training is monitored using the four dependent measures. Seventeen patients accrued to the study in Year 1, 9 in the hypnosis group, 8 in the comparison group. Baseline data was collected on all patients. Fourteen of 17 patients have completed 2 sessions of introductory training (7 each in both hypnosis and comparison groups). Twelve patients have undergone at least one post-training bone marrow aspiration (6 each in both groups). Of these, 4 patients (three patients in the hypnosis group and one patient in comparison group) have undergone 2 BMA's, and 2 patients (one each, in both groups) have completed the study protocol and have gone off-study (three post-training BMA's). Two methodological modifications were made. Hypnotic susceptibility testing was not done because the major pediatric susceptibility scales were, essentially, hypnotic inductions. Exposing comparison group patients to hypnotic induction would have confounded the controlled nature of the study. A quantified rating of the child's response to either hypnosis or the attention/placebo dimension was added as a factor to be correlated with treatment efficacy. All data were coded prospectively.

57. NEUROPSYCHOLOGICAL EFFECTS OF LEUKEMIA AND ITS TREATMENT

Berg, R. A., St. Jude Children's Research Hospital, Dept. of Psychiatry/Psychology/Social Services, *332 N. Lauderdale St., P.O. Box 318, Memphis, Tennessee,* 38101, United States of America

The proposed study will investigate the neuropsychological status of children treated for acute lymphoblastic leukemia (ALL) in a longitudinal fashion by means of serial neuropsychological, audiological, and electroencephalographic examinations and by comparison with control groups consisting of siblings of leukemic children and comparably aged children with Wilms' tumor. All children admitted to St. Jude Children's Research Hospital for treatment of ALL between the ages of four and twelve (40-50 per year) will be serially evaluated for five years by means of the Reitan-Indiana Neuropsychological Test Battery for Children or the Halstead Neuropsychological Test Battery for Children as well as by electroencephalograms and the Staggered Spondeic Word Test. Identical procedures will be administered to the control groups. If alterations in neuropsychological functioning do occur, they are expected to be variable across age groups, consistent within age groups. A thorough statistical analysis of the data will result in the detection of areas of neuropsychological dysfunction and determination of the etiology of any dysfunctions which occur. The determination of specific areas of neuropsychological dysfunction will facilitate the development of remediation strategies applicable to the classroom. Academic achievement will be monitored yearly to assess the effectiveness of any remediation initiated. By thoroughly examining a population at risk of developing CNS dysfunction during the high risk period, new knowledge can be obtained not only concerning the population of ALL children but also concerning the developing CNS in general.

58. COPING IN FAMILIES WITH A LEUKEMIC CHILD

Schulman, J. L., Kupst, M. J., Children's Memorial Hospital, Division of Child Psychiatry, *707 W. Fullerton St., Chicago, Illinois,* 60614, United States of America

Ninety-three families of children with leukemia and meningitis have been seen as part of the Coping Project, a five-year longitudinal study. Objectives are: 1) To obtain multi-source and multi-method data on the coping behaviors of family members; 2) to determine the relationship of coping and variables thought to be related to healthy coping; and 3) to test the effectiveness of an intervention strategy that is intended to help families maximize their coping resources and deal effectively with the illness and its implications.

Families were assigned randomly to one of three groups: 1) Total intervention; 2) moderate intervention; or 3) no coping project intervention. A series of clinical interviews has been conducted with the family: at diagnosis, during hospitalization, at home visits, in the outpatient phase, final assessments. Families are also asked to complete a number of scales, including the CPI, the Current Adjustment Rating Scale, and the Missouri Children's Picture Series. Tapes of the interviews are rated by

psychosocial staff using the Hurwitz, Kaplan and Kaiser scale, which has been adapted for use in this setting, and the Borgatta Interaction Process Analysis. Physicians and nurses also complete ratings of the families, based on the Coping scale and the Mood and Behavior scale. Systematic observations of behavior during the inpatient stays and in the clinic have been done, using time-sampling of child and adult behavior.

The current year, which is the fifth and last year of the project, will be spent in compiling the data, analyzing them, and presenting the results.

59. ADJUSTMENT AND ADAPTATION IN CHILDREN WITH CANCER

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The major objectives of the proposed continuation project are: (1) To continue into a fourth and fifth year to test for the presence of trends in psychosocial reaction of the child to cancer and its treatment; (2) to catalog sibling behaviors relative to the cancer and its treatment, both during the course of the illness and after the child's death; and (3) to test specific methods for the reduction of emotional, social, and/or academic dysfunctioning in the child with cancer which may result from the illness and its treatment, so that the child can continue to participate as fully and successfully as possible in family, community, and regular school life.

The testing for the presence of possible trends will come from a continued careful and methodic assessment of the child (attitudinal and behavioral components) in response to his environment (personal, familial, and situational). The project will encompass a continued extensive longitudinal series of assessments of the children in each age level, in varying circumstances (hospital, out-patient clinic, home and school). Stress will be placed on behavioral elements in day-to-day issues, and both behavioral and attitudinal variables at critical illness points. The study will attempt to differentiate healthy from unhealthy coping responses in the child.

The testing of methods for the reduction of dysfunctioning will be by specific interventions geared to expressed problems on an individual child and family basis. Central problems to be studied are: (1) Methods for the reduction of treatment-associated pain, (2) methods for the reduction of school-related problem behaviors, and (3) methods for the reduction of faulty intra-family and child-staff communication.

BIBLIOGRAPHIC REFERENCES: Spinetta, J.J. Communication patterns in families dealing with life-threatening illness. In O.J.Z. Sahler (ed.), The child and death. St. Louis: C.V. Mosby, 1978. Spinetta, J.J. Coping with childhood cancer: Professional and family communication patterns. In M. Eisenberg (ed.). Communication in the health care setting. Springfield, IL: C.C. Thomas, 1979, in press.

60. BEHAVIORAL STUDIES OF SERIOUSLY ILL CHILDREN

Susman, E. J., Hollenbeck, A. R., Nannis, E. D., Strope, B. E., Hersh, S. P., Levine, A. S., Pizzo, P. A., U.S. Dept. of Health & Human Services, Public Health Service, Alcohol, Drug Abuse & Mental Health Admin., National Inst. of Mental Health, Developmental Psychology Laboratory, *Bethesda, Maryland*, 20014, United States of America

Physical well-being is an assumed, though generally unmeasured, condition in studies of the child's psychological development and behavior. There is little developmental inquiry concerning the effects of absence or loss of physical well-being on child development, despite the reality that acute or chronic ill health from disease or accident is, to a great or small degree, part of the life of every chld. This project is concerned with the psychological and social impact of serious illness (cancer) on children and those in their social network (namely their families and caregivers). Areas of research include coping abilities, the influence of the social system of the child, and the mutual influences of the stressed children and those in their social network. Observations, interviews, and parent and nurse ratings were used to investigate these phenomena.

61. PSYCHOSOCIAL SEQUELAE OF CHILDHOOD CANCER

Nathan, D. G., Sidney Farber Cancer Center Inc., *44 Binney St., Boston, Massachusetts*, 02115, United States of America

Long-term survivors of childhood cancer and their families are being studied to determine long-range psychosocial sequelae of pediatric cancer and its treatment. Patients, parents, siblings, and spouses will continue to be interviewed individually and/or in family interviews. In addition, a mail questionnaire will be sent to these and up to 500 other families to further explore the relationship between age at diagnosis, diagnostic category, degree of physical impairment, patterns of family communication, etc., and psychosocial adjustment to a life-threatening disease. A computerized registry of all pediatric oncology survivors treated at The Sidney Farber Cancer Institute provides valuable assistance in categorizing and locating patients for study.

62. PEDIATRIC ONCOLOGY - A STUDY OF FAMILY NEEDS

Malpas, J. S., Clark, J. A., Imperial Cancer Research Fund, Medical Oncology Unit, *Lincoln's Inn Fields, London WC2A 3PX, England, United Kingdom*

This study into the effects of calamitous disease on the relatives of children with cancer has been an in-depth inquiry into the problems of families. It has been carried out using questionnaires and interviews in a representative cross-section of patients under the care of the unit. Problems of nurse communication and liaison (hospital sister to community nurse), the special problem of fathers, of adolescents and of the bereaved are under investigation.

63. CHILDHOOD CANCER - PSYCHOSOCIAL REHABILITATION

Lansky, S. B., Cairns, N. U., Butterfield, G., University of Kansas, Medical Center, School of Medicine, Dept. of Pediatrics, *39th St. & Rainbow Blvd., Kansas City, Kansas*, 66103, United States of America

In the third year of the current granting period, we will complete accrual of patients and analysis of data in the following three areas of study: 1. Patient compliance with oral chemotherapy and psychological factors associated with noncompliance. 2. The costs of childhood cancer, both medical and nonmedical. 3. The intellectual and academic status of children with cancer with particular attention to those who receive prophylactic central nervous system treatment (irradiation and/or chemotherapy).

BIBLIOGRAPHIC REFERENCES: Lansky, S.B., Vats, T., and Cairns, N.U. Refusal of treatment, a new dilemma for oncologists. Amer. J. Ped. Hematology/Oncology, 1, 277-282, 1979. Cairns, N.U., and Lansky, S.B. MMPI indicators of stress and marital discord among parents of children with chronic illness. Death Education, 4, 29-42, 1980, in press.

64. LONG-TERM FOLLOW-UP OF CHILDHOOD CANCER SURVIVORS

Draper, G. J., Harnden, D. G., Heasman, M. A., Marsden, H. B., University of Oxford, Childhood Cancer Research Group, *S. Parks Rd., Oxford OX2 6HE, England, United Kingdom*

OBJECTIVES: The proportion of children with cancer and leukemia who are successfully treated has increased considerably during the past 15 years, but little is known about the long-term prognosis for such patients or their children. The primary objectives of this study are to investigate: (a) The incidence of second primary tumors and (b) the outcome of pregnancies among the survivors and the incidence of congenital defects and neoplasms among their children. The occurrence of such late effects will be analyzed in relation to the original tumor type and to the radiotherapy and chemotherapy used in treatment. Subsidiary objectives are to investigate continuing morbidity and the general 'quality of life' among survivors, and to determine the incidence and causes of late deaths.

It is proposed also to conduct chromosome studies, to establish a pathology registry for double primary tumors and possibly to perform detailed clinical examinations of some groups of patients.

APPROACH: The Childhood Cancer Research Group is coordinating a collaborative study which will include most of

the survivors of childhood cancer treated in Britain from 1954 onwards and also many from earlier years.

Cases have been identified through cancer registries and certain major treatment centers. Further information on second tumors and late deaths will be obtained through hospitals and national record systems. Information on the subsequent health of survivors, their pregnancy histories and the occurrence of neoplasms and congenital defects in their offspring will be obtained by questionnaire studies through consultants and general practitioners.

For children treated in Scotland, subsequent hospital admissions, school health records and other medical records are being studied and compared with corresponding records for a sample of controls, using record linkage.

65. PEDIATRIC CANCER CONTROL - SCHOOL AND NURSING OUTREACH

Cairns, N. U., Kloporich, P., Trueworthy, R., Suenram, D., Butterfield, G., University of Kansas, Medical Center, School of Medicine, Dept. of Pediatrics/Psychiatry, *39th St. & Rainbow Blvd., Kansas City, Kansas*, 66103, United States of America

With advances in therapy, childhood cancer has become a chronic disease which need not prevent a child from living a normal or near-normal life much of the time. The purpose of the proposed project is to develop and evaluate a model for utilizing two existing community resources, the school and the county health department, to facilitate the child's rehabilitation. Community health nurses educated in pediatric cancer care can alleviate many of the burdens on children and families living at a distance from the treatment center. School, a major force in normal child development, is as important in children's rehabilitation as employment is for the adult cancer patient.

A Pediatric Cancer Control Team (PCCT) has been formed consisting of two pediatric oncology nurse clinicians, two clinical psychologists, a special education teacher, and support personnel. The objectives are, first, to educate local community health nurses and school personnel about pediatric cancer, cancer therapy, prognosis, and rehabilitation; second, to maintain liaison with the local agencies to coordinate medical care and to facilitate academic progress for each patient; and third, to evaluate the effectiveness of the program by means of (a) questionnaires to assess local community personnel's knowledge about and attitudes toward cancer both before and after intervention; (b) weekly patient contact logs to provide information about the community nurse's activities; (c) school records of the child's attendance and academic progress; and (d) parent questionnaires and interviews to assess satisfaction with the intervention. To date, 41 children are involved in the study.

66. HOME CARE FOR CHILD WITH CANCER

Martinson, I. M., University of Minnesota, Minneapolis Campus, School of Nursing, *122 Owre Hall, Minneapolis, Minnesota*, 55455, United States of America

This study examines the feasibility and desirability of a home care alternative to hospitalization for children with cancer whose cancer control treatment is no longer effective, i.e., children who are dying. Under this option, the parents are the primary providers of their child's care. They are assisted by nurses who consult via telephone and who make home visits as necessary. The child's physician serves as a consultant to the family and nurse and prescribes needed medication, especially analgesics.

In the first year of the study, 20 boys and 12 girls died from cancer while participating in home care. Of those 32 participants 27 died at home and 5 re-entered and died in the hospital. The mean length of involvement from initial nurse contact to time of death was 32.7 days. For the 27 children who died at home the mean number of home visits was 11.4 for a mean of 2.3 hours each. Total costs for home care are estimated to be $30 to $40 per day. Monetary savings over hospitalization are considerable. All parents involved reported satisfaction with home care and all would choose it again.

BIBLIOGRAPHIC REFERENCES: Martinson, I.M., Armstrong, G.D., Geis, D.P., Anglim, M.A., Gronseth, E.C., MacInnis, H., Nesbit, M.E., and Kersey, J.H. Facilitating home care for children dying of cancer. Cancer Nursing, 1978, 1, 41-45. Martinson, I.M., Armstrong, G.D., Geis, D.P., Anglim, M.A., Gronseth, E.C., MacInnis, H., Kersey, J.H., and Nesbit, M.E. Home care for children dying of cancer. Pediatrics, in press 1978.

67. COOPERATIVE STUDY OF CHILDREN'S CANCER

Klemperer, M. R., Segel, G. B., Rubin, P., Putnam, T. C., Bonfiglio, T. A., Stutzman, H., Ettinger, L. J., University of Rochester, School of Medicine & Dentistry, Dept. of Pediatrics, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

The purpose of this proposal is for continued support of an established children's cancer treatment center at the University of Rochester Medical Center. The general goals of the program continue to be: (1) improved therapy for children suffering from oncologic disease through participation in the implementation of protocols of a cooperative children's cancer study group; (2) the use of an integrated multidisciplinary approach in the treatment of children with oncologic disease; (3) participation in and development of education programs in pediatric oncology for practicing physicians, subspecialty trainees, house officers, medical students, nurses, social workers and lay persons in the diagnosis, therapy and management of children and their families who are suffering from leukemia or solid malignancy; (4) the participation by the Pediatric Hematology-Oncology Unit in all appropriate programs of the University of Rochester Cancer Center.

68. CHILDREN'S CANCER STUDY GROUP

Higgins, G. R., Children's Hospital of Los Angeles, *4650 Sunset Blvd., Los Angeles, California*, 90054, United States of America

The project proposes continuation of a comprehensive pediatric oncology program at Children's Hospital of Los Angeles (CHLA). This program is designed to improve the treatment of children with cancer by conducting clinical investigations as a member of Children's Cancer Study Group (CCSG) and by independently conducting other research which is directly related to the mission of CCSG. CHLA is a major pediatric referral center for the Pacific Southwest and has one of the largest pediatric oncology services in the nation. An interdepartmental program has developed at CHLA which involves basic and clinical scientists and has evolved into a multidisciplinary model for the management of pediatric cancers.

The participation of the investigators of CHLA in CCSG enables quantitative comparative clinical investigations aimed at establishing the best mode of any cancer therapy. The unique resources of CHLA permit the development of new therapeutic approaches for groupwide application. These include participation in the National Cancer Institute Phase I Working Group and the Late Effects Study Group, the evaluation of new dose schedules and combinations of established agents predicted by in vitro and in vivo pharmacological studies, immunological characterization of selected neoplasms, effects of cancer and its treatment on hematopoiesis, intensive chemotherapy in the protected environment, optimum nutritional support in childhood malignancies, approaches to psychosocial rehabilitation of the pediatric cancer patient and family, and pre-clinical studies in molecular and cellular pharmacology, tumor cell biology, carcinogenesis, in vitro and in vivo tumor model systems. A network of community physicians participates in the CCSG Cancer Control Program for Clinical Cooperative Groups under the sponsorship of CHLA which enables the use of optimal therapy in children who are not referred for initial cancer care.

Through the proposed continuation the comprehensive program at CHLA will seek as its ultimate goal an integrated therapeutic and investigative approach to childhood cancer.

69. CHILDREN'S CANCER STUDY GROUP - A

Gross, S., Case Western Reserve University, School of Medicine, Dept. of Pediatrics, *2109 Adelbert Rd., Cleveland, Ohio*, 44106, United States of America

CCG has the expertise to combine whole group protocol studies with small intra-group investigations of tumor biology. Large scale clinical programs are needed to consolidate data accrual of the past decade. Included in small group studies are those utilizing data on experiments in nature, i.e., adenosine deaminase (ADA) deficiency; anti-cancer effects of interferon; anti-tumor antibodies (common ALL, neuroblastoma); transplantation (allogeneic, autologous) biology; autologous lymphocyte therapy; radiosensitizer therapy; limb salvaging techniques/aggressive metastatic surgical attack; and diagnostic imaging pro-

cedures. Induced ADA deficiency can be applied to the study of T-cell leukemia and to the nature of lymphoblast modulation. Interferon data can be applied to the study of non-T ALL, non-Hodgkin's lymphoma and osteosarcoma and to the nature of tumor cell death. Anti-(common) ALL antibody studies can be applied to the development of common ALL and non-T, non-B lymphoma protocols. Specific anti-neuroblastoma antibody data can be applied to the development of randomized studies comparing chemotherapy and chemotherapy plus adjuvant antibody therapy. Allogenic transplantation for AML can be expanded to relapsing high risk ALL and high risk lymphoma. Autologous marrow transplantation rescue is applicable for megadose therapy studies of leukemia, lymphoma and a variety of solid tumors and as a means of evaluating techniques for identifying occult tumor burdens. Similarly, autologous lymphocyte infusion into brain tumors can test the hypothesis that such malignancies occupy immunologically priviledged sites and in turn be incorporated into a randomized radiosensitizer therapy study. Conflicting osteosarcoma data can be resolved by comparing pre-op megadose therapy to surgery alone (including evaluation of transfer factor, limb salvaging, and evaluation of the time/therapy sequence in treatment of metastatic disease). Extensive investigation of new agents is required in high risk Wilms' and Ewing's sarcoma and rhabdomyosarcoma. Efficacy studies of appropriate imaging techniques are mandated in virtually all protocols in which tumor delineation is essential. And in all studies active participation by nurse specialists should be encouraged in order to enhance protocol development.

70. CHILDREN'S CANCER STUDY GROUP - UNIVERSITY OF OREGON

Neerhout, R. C., Wolff, L. J., Campbell, J. R., Houghton, D. C., Stevens, K. R., Harrison, M. W., Smiley, S., Oregon State Higher Education System, University of Oregon Health Sciences Center, School of Medicine, Dept. of Pediatrics, *3181 S.W. Sam Jackson Park Rd., Portland, Oregon*, 97201, United States of America

This program is to help support the participation of the Pediatric Oncology group at the University of Oregon Health Sciences Center in the Children's Cancer Study Group. The Pediatric Oncology program is a multidiscipline group formed to improve the quality of care of children with cancer in Oregon and adjacent states. The program includes four major commitments: 1) Patient care, 2) research, 3) teaching, and 4) continuing education of the public and health care professionals. Although this program deals primarily with patient care and research as it relates to patient care, all aspects of the program are interrelated and thus described in the text. The basic aim of the proposal is to provide for clinical research utilizing the patient population in this geographic area by participating in Children's Cancer Study Group treatment and protocols. Emphasis is placed on combining the best of multidisciplinary cancer therapy with strong psychosocial support for the patient and the family.

71. SOUTHWEST ONCOLOGY GROUP - PEDIATRIC DIVISION

Berry, D. H., University of Arkansas, Medical Sciences Campus, School of Medicine, Dept. of Pediatrics, *4301 W. Markham St., Little Rock, Arkansas*, 72201, United States of America

The grant proposal objectives are: 1) To implement multidisciplinary clinical research in pediatric oncology. 2) To pursue oncology research by participation in the formulation of protocols for clinical investigation of pediatric oncology diseases and by contribution to data collection, analysis and interpretation for such investigations. 3) To encourage fruitful intellectual exchanges between pediatric specialists in oncology and immunology and foster pilot studies involving these 2 disciplines. 4) To enable SWOG to contribute by intellectual stimulation and information from the group to the education, research and training programs in pediatric oncology at UAMS for all medical and para-medical personnel. The superiority of multimodal rather than single mode therapy in childhood oncology has been well established by SWOG, intergroup studies and other groups. With multidisciplinary research efforts on a local and group basis more complete and better therapies will continue to be developed in pediatric oncology. Since the total number of patients with childhood oncology disease is low, pooling patients in group designed protocols leads to more meaningful randomized studies and rapid collection of data. Assembling oncology investigators with common goals from a number of institutions encourages germination of innovative ideas not easily achieved from a very narrow base. The thoughtful evaluation by many investigators of a proposed protocol prior to its institution leads to more precisely defined questions and makes less likely the omission of pertinent points that can be resolved by adequate data collection.

72. SOUTHWEST ONCOLOGY GROUP

Falletta, J. M., Lyon, G. M., Filston, H. C., Bradford, W. D., Kinney, T. R., Noell, K. T., Fishburn, R. I., Glenn, J. F., Harrelson, J. M., Metzgar, R., Hall, C. M., Duke University, School of Medicine, Dept. of Pediatrics, *Box 3711, Durham, North Carolina*, 27710, United States of America

The goal of the proposed research is to determine optimum care for children with all types of cancer. The research mechanism involves participation in collaborative multidisciplinry clinical cancer research protocols generated through the Southwest Oncology Group. The proposed research grant will allow the continued participation of the Divisions of Pediatric Hematology-Oncology, Pediatric Surgery, Therapeutic Radiology, and the Departments of Pathology, and Microbiology and Immunology at Duke University Medical Center in Southwest Oncology Group activities. These activities involve studies of the natural history, immunology, and multimodal therapy of all childhood malignancies. Cooperative studies among physicians from a group of medical centers allows for rapid accrual of a statistically significant number of children with cancer in order to quickly define those avenues of therapy which provide prolonged survival. Through participation in cooperative studies, the entire medical community engaged in the care of children with cancer has a focal point to provide not only improved patient care, but also improved multidisciplinary teaching and research. Our objectives for the coming years are: 1) To develop additional protocols for the immunologic diagnosis and management of patients with malignant lymphoproliferative disorders, 2) to continue our multidisciplinary research efforts in other cancers of children, and 3) to expand our outreach programs for education and patient care to satellite institutions and physicians in the regions.

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73. CHILDREN'S CANCER RESEARCH CENTER

D'Angio, G. J., Children's Hospital of Philadelphia, *3400 Civic Ctr. Blvd., Philadelphia, Pennsylvania*, 19104, United States of America

The program of the Children's Cancer Research Center focuses on the special problems of pediatric oncology and seeks: 1) To devise better and more efficient treatments using clinical and laboratory studies so as to achieve best survival and lowest early and delayed complication rates. 2) To study and understand the late adversities of therapy so that they can be avoided or mitigated. 3) To identify causative factors with a view towards reducing the incidence of childhood cancer.

Integrated clinical, epidemiologic and laboratory investigations will be used to accomplish these objectives. Leukemia, neuroblastoma and other tumors and disease states of neural crest origin will be emphasized in clinical studies and those relating to the genetics, immunology, membrane biology, epidemiology and radiobiology of pediatric neoplasia. The development of minimal therapies for low risk patients and aggressive treatments, including those requiring bone marrow rescue for children at high risk, will be stressed.

The late effects of treatment will be studied, with special reference to the learning disabilities that follow cranial irradiation for leukemia and other cancers.

74. CANCER CENTER SUPPORT GRANT (SPECIALIZED)

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The diagnosis of cancer in a child is no longer synonymous with death. However, cancer is still the leading cause of death from disease in American children over one year of age. In addition, most of the major advances in treatment were made prior to 1970 and the dismal prognoses of some tumors (T cell leukemia, disseminated neuroblastoma) remain unchanged. Even in therapy-responsive tumors such as common cell ALL, lymphomas and Wilms' tumor, 20-50% of children relapse. Clearly there is a need for more fundamental knowledge about the origin, biologic properties, subtypes, and reasons for varying responsiveness to therapy of different childhood tumors.

The Midwest Children's Cancer Center is a clinical research facility, associated with research laboratories focusing on problems generated by patient care. The six general objectives of the Center are: (1) Determination of pharmacokinetics, mechanisms of action and efficacy of new anti-cancer drugs; (2) development of further understanding of the immune system in children with cancer and possible ways of utilizing it for treatment; (3) development of new anti-cancer treatments by comparative and exploratory studies; (4) assessment of infectious problems in children with cancer and ways of treating or preventing them; (5) provision of childhood cancer education for physicians, basic scientists, students, nurses, and the public; (6) collaboration with neighboring institutions, other Cancer Centers and community programs.

On a larger scale, the Cancer Center's aim is to generate awareness, interest and involvement in childhood cancer by the medical community and lay public. It also serves as a model for organization of care and research for other life threatening diseases requiring intensive long-term multidisciplinary treatment.

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75. CLINICAL CANCER EDUCATION PROGRAM/ PEDIATRIC

Hartmann, J. R., Chard, R. L., Bernstein, I. D., Bleyer, W. A., Johnson, F. L., Pendergrass, T. W., Rudolf, L., Griffin, T. W., Ward, B., Schaller, R., Raskin, J., Beckwith, J. B., Children's Orthopedic Hospital & Medical Center, *4800 Sand Point Way N.E., Box C-5371, Seattle, Washington,* 98105, United States of America

The aim of this proposal is to continue to develop a model education program in pediatric oncology for teaching associates, housestaff, practicing physicians, medical students, nurses, social workers and other paramedical disciplines. Established clinical and research programs of this comprehensive cancer center together with a formal teaching curriculum, conferences and self-teaching audiovisual aids will be used. The program will be responsive to changing needs in pediatric oncology with greater emphasis on epidemiology, pharmacology and the need to develop pediatric oncologists with the ability to develop innovative clinical and laboratory research programs. Frequent and in-depth evaluation of the program will be performed.

BIBLIOGRAPHIC REFERENCES: Chard, R.L., Hartmann, J.R., Bernstein, I.D., Bleyer, W.A., and Johnson F.L.: Acute childhood leukemia. Current Therapy: Howard F. Conn (Ed.), W.B. Saunders Co., Philadelphia p. 309, 1978. Hammond, G.D., Bleyer, W.A., Hartmann, J.R., Hays, D.M., and Jenkin, R.D.T.: Perspectives in pediatric oncology. Cancer 41:29-35, 1978.

76. COMMUNITY CHILDHOOD CANCER CONTROL FOR FLORIDA

Talbert, J. L., Florida Assn. of Pediatric Tumor Programs Inc., J. Hillis Miller Health Center, *Box J 286, Gainesville, Florida,* 32610, United States of America

The primary objective of this application is to demonstrate the feasibility of expanding an existing network of childhood cancer clinics into a comprehensive program which will ensure availability of quality cancer care for every child in the State of Florida. This statewide program will be aimed toward the improvement of early detection, medical treatment and continuing care and rehabilitation of pediatric cancer patients. Proposed methods for the achievement of this goal are improved education of the lay public and community physicians, the adoption of national treatment protocols for all patients, the establishment of new children's cancer treatment centers, the extension of advanced methods of children's cancer management into the local community, and a greater emphasis on the psychosocial aspects of cancer management in children. The Florida Association of Pediatric Tumor Programs, Inc., a unique organization of Florida physicians who are dedicated and knowledgeable in the field of pediatric oncology, will provide the vehicle for coordination and development of this comprehensive statewide attack on childhood cancer.

77. CLINICAL CANCER EDUCATION PROGRAM

Hays, D. M., Children's Hospital of Los Angeles, *4650 Sunset Blvd., Los Angeles, California,* 90054, United States of America

This proposal is submitted by the staff of a pediatric teaching hospital in the Departments of Pediatrics, Surgery, Pathology, Psychiatry, and The Basic Sciences of the University of Southern California. The staff includes 19 doctors whose major interest is in clinical oncology and/or cancer research. The institution is a cancer center admitting 160 new pediatric patients with neoplasms per year; an active member of a cooperative group, Children's Cancer Study Group; and a participant in all intergroup or national studies of pediatric cancer patients. Nine major basic cancer research projects are in progress.

It is proposed that the resources for education in pediatric oncology noted above be employed in a series of projects directed at medical students, postgraduate physicians in training, physicians in practice, nursing and allied health service personnel. These programs will attempt to disseminate concepts of (a) the importance of early cancer detection; (b) current forms of diagnosis and multidisciplinary management; (c) involvement in related psychosocial problems; (d) rehabilitation in the care of children with malignancy; and (e) objective evaluation of the results of cancer therapy. This educational effort will be correlated with the Cancer Control Program, activities of the cooperative group and other phases of cancer education in the University and the Cancer Center.

78. DEMONSTRATION UNIT FOR ADOLESCENT CANCER PATIENTS

Wallace, H. J., Roswell Park Memorial Inst., *666 Elm St., Buffalo, New York,* 14263, United States of America

A ten-bed inpatient demonstration unit for adolescent cancer patients has been in operation since January 5, 1978 at RPMI. The Unit is designed to provide special rehabilitation and support personnel and facilities to minimize the impediments to accomplishing the tasks of adolescence when these are complicated by cancer and its treatment. The specially selected and trained staff has cared for eighty-seven teenage and young adult patients with a broad variety of cancers in the first eight months of operation. Primary nursing has made the nurse a more integral part of the patient management team and more cognizant of the patient, disease, treatment and family concerns. The nurse's role is expanding as the greater demands of primary nursing are met.

A primary goal of the Unit is to provide strong psychosocial support for the patients, families and staff. A number of programs and activities have been developed to meet this goal based on a baseline study of adolescent cancer patient needs. Activities include patient rap sessions, occupational therapy, family night, music therapy, creative writing, concerts/movies and bereavement follow-up. Documentation of the programs has been accomplished and evaluation data have been collected. Analysis and comparison with a prior study is under way. The Unit will be the focus of numerous research projects, some of which are already under way.

B. PSYCHOSOCIAL ASPECTS OF BREAST CANCER REHABILITATION

79. EXISTENTIAL, SOCIAL AND PHYSICAL PROBLEMS FOLLOWING MASTECTOMY IN YOUNG WOMEN WITH BREAST CANCER

Beckmann, J., Blichert Toft, M., Odense University Hospital, Dept. of Clinical Psychology, *Klovervaenget 18, 5000 Odense C, Denmark*

Mastectomy constitutes a considerable mental trauma for the majority of women. In particular, younger women feel the loss of the breast as a severe emotional strain. Medical attention has first and foremost been concentrated on the therapeutic effects of the operation, while there has been much less recognition of the mental reactions. No controlled investigation of the extent and severity of the problem has been carried out in Denmark.

The planned study covers 36 women who, within a period of 18 months, underwent mastectomy because of mammary carcinoma. They were all 45 years of age or younger. In connection with control examination, all undergo retrospective psychological examination, for the purpose of evaluating the mental reaction to mastectomy. The investigation will attempt to assess quality of life following removal of a breast in younger women from the point of view of post-surgical existential, social and physical problems.

80. MENTAL AND SOCIAL PROBLEMS IN BREAST CANCER PATIENTS, AND EFFECTS OF SOCIAL SUPPORT

Levi, L., Wallgren, A., World Health Org., Psychosocial Centre, *S10401 Stockholm, Sweden*

OBJECTIVES: (a) To evaluate benefits and disadvantages, in terms of quality of life and physical, psychological, and social functions, resulting from simple psychosocial support given as an adjuvant to the usual surgical/radiological treatment in patients with cancer of the breast. (b) To study the incidence of psychosomatic, mental, social and economic effects of the primary disease. (c) To study psychophysiological relationships and to identify endocrine, immunological, emotional and/or behavioral 'high risk reactions' (predictors, explainers) to physically, psychologically and/or socially unfavorable processes.

APPROACH: The main investigation includes a controlled study of at least 200 breast cancer patients in the Greater Stockholm region. These patients will be randomly allocated to 2 treatment subgroups and studied on an interdisciplinary basis for a period of two years. Both groups will receive the usual program of care recently adopted by the Department of Oncology. One group will also receive psychosocial support. A sample of women of the same age as the patients but otherwise representative of the women of Greater Stockholm will be sent questions or interviewed in order to establish psychosocial norms with which the patients may be compared.

PROGRESS: The planning and pilot phases will be completed by June 1979. The main investigation will start in July and last three years.

81. PSYCHOLOGICAL ASPECTS OF BREAST CANCER

Gates, C. C., Peter Bent Brigham Hospital, *721 Huntington Ave., Boston, Massachusetts,* 02115, United States of America

OBJECTIVES: Bring together the most complete information and most experienced people to solve problems associated with the psychological aspects of breast cancer. Demonstrate how inter-disciplinary groups can work effectively and creatively together on emotional aspects of breast cancer. Disseminate information and implement programs employing demonstrated effective techniques to control emotional morbidity.

82. THE COPING STRATEGIES OF 600 WOMEN AFTER A MASTECTOMY

Rogers, T. F., Bauman, L. J., Columbia University, Graduate School of Business, *Broadway & W. 116th St., New York, New York,* 10027, United States of America

Ninety thousand women each year are diagnosed as having breast cancer and face the dual crisis of a life-threatening illness and disfiguring surgery. The proposed research would analyze the coping strategies used by women in recovering from a mastectomy; determine which ones are effective in reducing stress and improving patient recovery, and identify the types of women who use effective coping strategies and those who do not. Data for this research are available from a study soon to be completed for the National Cancer Institute. To investigate the coping function of affiliation - that is, contact with others who have a mastectomy - fifty volunteers who visit mastectomy patients in the hospital will be interviewed about the coping techniques they believe are useful and how they attempt to communicate these to patients.

The analysis of coping techniques will focus on structural variables (age, race, ethnicity, income, education and stage of life cycle); contextual variables (conditions of the situation itself); and social interaction (specifically, affiliation). The usefulness of coping strategies will be evaluated by assessing whether they reduce emotional distress and whether they facilitate return to useful activities and social roles.

The data available for the analysis were collected in one-hour interviews with 600 mastectomy patients between 18 and 65 years of age, without distant metastases, who reside in 17 counties in southeastern New York and had undergone surgery in some 200 hospitals between May 1978 and January 1979. The size and representativeness of the sample was made possible through collaboration with the Bureau of Cancer Control, New York Department of Health. In addition to questions concerning respondents' experiences during recovery and current physical and emotional status, the interview collected data on return to useful activities (e.g. work, leisure and other activities, sex life); support from family, friends and health care professionals; the patients' perceived adequacy of information and participation in self-help groups.

83. PSYCHOSOCIAL EFFECTS OF BREAST CANCER ON FAMILY

Willi, J., Kind, H., Buddeberg, C., Universitat Zurich, Abteilung f. Psychosoziale Medizin u. Familientherapie, Psychiatrische Poliklinik, *c/o Univ.-Spital, Pestalozzistr. 10/12, CH8091 Zurich, Switzerland*

OBJECTIVE: Development of a psychosocial rehabilitation program for mastectomized women and their husbands.

APPROACH: A questionnaire is submitted to 40 women with breast cancer and their husbands four times in the course of a year. The questionnaire covers the following dimensions: self concept, task distribution between the spouses, relationship to spouse and social environment, matrimonial problems and problem-solving strategies, sexuality, psychosomatic troubles, psychosocial adjustment to a serious disease, and concept of spouse. During the first months following mastectomy, 20 women and their partners attend 6 to 8 discussion sessions with a psychotherapist for the working-up of their illness. Forty women with benign adenomas of the breast and their husbands serve as the pilot group.

PROGRESS: The first questionnaires have been administered and the discussion sessions have taken place. No results are available so far.

84. SYMBOLIC GROUP THERAPY WITH MASTECTOMIZED WOMEN

Fornari, F., Burrone, A., Castaldi, S., Donadoni, M. A., Frontori, L., Marsella, F., Moletta, M., Quintavalle, G., Rutelli, R., Tamburini, M., Istituto Nazionale per lo Studio e la Cura dei Tumori, *1 Via G Venezian, 20133 Milan, Italy*

OBJECTIVES: Set up a procedure to guide emotional release to be used by mastectomized women trained to work with groups of breast cancer patients and determine the effect that symbolic therapy has on the elaboration of the anguish felt by women with breast cancer. If the results of this study are positive, we foresee its application over a large area that would provide an auxiliary psychotherapeutic service to a large number of patients with minimal cost to institutions.

APPROACH: Two 'exemplary' stories will be chosen from conversations with twelve women who have been surgically treated for mammary carcinoma. A sketch will be written based on these stories which will then undergo (coinemic) analysis of the symbolic referents within the text. Both the two stories and their interpretation will be acted out by an actress and an actor and then videotaped. Two women, who underwent mastectomies some years before and have been carefully trained, will show the film and lead a discussion with two groups of 25

women each who have just been operated on for breast cancer. A questionnaire will then be given to the 50 women who take part in the experiment and to a control group of 30 women. The psychological state of the study group will be tested before and after the discussion and both groups will be retested at intervals of one and six months.

The analysis of the results will show the modification in the quality of life effected by the experiment.

85. RESOURCES THAT AID THE RECOVERY OF CANCER PATIENTS

Rogers, T. F., Elinson, J., Fleiss, J. L., Metzger, L., Bauman, L. J., Columbia University, Graduate School of Business, *Broadway & W. 116th St., New York, New York*, 10027, United States of America

Most research on the emotional and social aspects of recovery from mastectomy and permanent colostomy surgery has been limited by problems of study design: lack of identification of sub-populations; inability to control for intervening variables; inadequate measurement of variables; bias in sample selection and small sample size. Accordingly, many questions on patterns of patient recovery and the extent of patients' needs during rehabilitation remain unanswered.

With support from the National Cancer Institute for a study of the effects of lay groups on recovery and functioning, data have been collected from some 800 mastectomy and permanent colostomy patients 18 to 65 years of age without distant metastases who reside in 17 countries in southeastern New York and who have undergone surgery in some 200 different hospitals. The size and representativeness of the study population was made possible through collaboration with the Bureau of Cancer Control of the New York State Department of Health.

Telephone interviews averaging one-hour in length documented patient participation in lay support groups as well as other resources for patient rehabilitation in order to analyze the effect of self-help on recovery. These resources include social support from health care providers; support from family, friends, co-workers and neighbors; information about one's health condition; and coping behaviors. We are requesting one year of additional funding to evaluate the effectiveness of these other patient resources on physical, social, and emotional recovery. In addition, the influence on recovery of four medical factors will be examined: length of hopital stay, extent of surgery, one- versus two-stage surgical procedure, and extent of disease. The research product will describe the resources patients have, analyze how they affect recovery, and present empirically derived models of which resources are most effective with different types of patients in various life circumstances.

86. COUNSELING TECHNIQUES FOR BREAST CANCER PATIENTS

Hyland, J., Novotny, E., Coyne, L., Travis, J. W., Roselle, M., Harmon, M., Frost, N., Pruyser, H., Menninger Foundation, *3617 W. 6th St., Topeka, Kansas*, 66601, United States of America

The proposed investigation addresses the issues of emotional and adjustment difficulties frequently associated with breast cancer and the ways in which counselling techniques can be used to alleviate these problems.

Breast cancer patients will be randomly assigned to one of three selected counselling techniques or will receive standard nursing care during an eight to ten week period of time while they are undergoing a first course of radiotherapy. Evaluation of the short- and long-term effectiveness of the counselling techniques will be accomplished by measuring the patients' functioning on a number of dimensions related to emotional adjustment difficulties recognized as common to breast cancer patients on five specified occasions over approximately an eighteen-month period.

Self-report measures and objective ratings by staff using scales will be utilized to assess the patients' emotional reactions to their illness, e.g., degree of depression and anxiety, the presence of physical problems and psychological symptoms, and characteristics of their current adjustment including quality of interpersonal relationships as well as their participation in activities such as work, social and community activities and sexual relationships as compared to their functioning before they had cancer.

87. EVALUATION OF COUNSELING FOR MASTECTOMY PATIENTS

Bond, G. R., Blum, L., Visotsky, H., Berlin, N., Oviedo, M., Crivolio, A., Cohen, J., Pomp, H. C., Northwestern University, Chicago Campus, School of Medicine, Dept. of Psychiatry, *303 E. Chicago Ave., Chicago, Illinois*, 60611, United States of America

This study employs a comparative experimental design to evaluate the effectiveness of four short-term counseling approaches in helping mastectomy patients cope with the psychosocial problems brought on by the diagnosis and treatment of cancer. Each approach addresses a major coping task facing the cancer patient. The 'individual psychodynamic' approach addresses the symbolic meanings triggered by the diagnosis of a life-threatening disease, the loss of a breast and other physical changes. The mode of intervention will be focused interpretations around a single important psychological theme which has emerged as a result of the cancer. The 'group' approach will address feelings of isolation and stigma known to accompany diagnosis of cancer, using the commonality of the diagnosis as a basis for affiliation and sharing common experiences, mutual identification, comparison of life circumstances, and other processes which have been identified as powerful therapeutic mechanisms in self-help groups and professionally led psychotherapy groups. The 'lecture' approach will address the feelings of helplessness and loss of control over one's circumstances, by providing factual information about the physical condition and suggesting solutions to problems in day-to-day living. The relaxation condition will teach a technique for reducing general body tensions in order to cope with the stresses of cancer and its treatment.

C. CARE, PROSTHETIC DEVELOPMENT, AND REHABILITATION OF HEAD AND NECK CANCER

88. PSYCHOLOGICAL ASPECTS OF COLLUM CANCER

Gyllenskold, K., Tjernberg, B., Stockholms Universitet, Ped. Inst., Dept. of Educational Psychology, *10691 Stockholm, Sweden*

OBJECTIVE: To study psychological implications of collum cancer.

APPROACH: Interviews by psychologist.

PROGRESS: The study will start in October, 1980. Twenty-five patients will be interviewed on the following schedule: 1) At the time of diagnosis; 2) one week after this; 3) in the week following termination of treatments; 4) 6 months after time of diagnosis; 5) 12 months after time of diagnosis; 6) 18 months after time of diagnosis.

One close family member of each patient will be interviewed on the following schedule: 1) At the time of diagnosis; 2) 6 months after time of diagnosis; 3) 12 months after time of diagnosis; 4) 18 months after time of diagnosis.

89. DEVELOPMENT AND EVALUATION OF A NEW ARTIFICIAL LARYNX

Goldstein, L. P., Rothman, H. B., Oliver, C. C., U.S. Veterans Admin., Dept. of Medicine & Surgery, Medical Center, Audiology & Speech Pathology Service, *Gainesville, Florida*, 32601, United States of America

The first year involves four phases of work. Phase I involved design, assembly and preliminary testing of instrumentation and data acquisition systems. The measurement systems were designed to acquire experimental data on: (1) Performance characteristics of electronic components of artificial larynx devices, (2) amplitude and frequency of electro-mechanical vibration signals, (3) the mechanical impedance of human neck tissue and (4) amplitude and frequency of acoustic signals.

Phase II of the project was the measurement and analysis of human neck tissue. Results to date have established conclusions as follows: (1) Neck tissue is a high damped system with a very low resonant frequency. Damping appears to exceed critical damping by an order of magnitude. (2) There exist no frequency 'windows' for neck tissue which will permit improved vibration transmission. (3) Vibration transmission will require inputs similar to a square wave and the output will resemble shock spectra.

Phase III is the performance rating of four existing artificial larynx devices. Results indicate similar electronic circuits for the Western Electric and Servox devices. Each could be classified as a bi-stable, multi-vibrator element. The Aurex is basically a solenoid element while the Barts has a small motor with a crank to activate a spring loaded plunger.

Phase IV follows with the first preliminary design of a new neck mounted artificial larynx. The power supply and electronic circuit will be remote from the neck mounted vibrator. Evaluation of the new device during Phase IV will determine the direction of efforts for the proposed second year of the project.

90. A PILOT STUDY OF THE NEED FOR AFTER-CARE OF HEAD AND NECK CANCER PATIENTS

van den Heuvel, W. J., van Burink Withaar, A. G., Rood Nieuwland, A., Inst. of Social Oncology, *Dr. Molewaterplein 50, Rotterdam, Netherlands*

OBJECTIVE: A pilot study: a) to check the need for after-care of head and neck cancer patients; b) to evaluate the information about patients given by the hospital to the district nurse; c) to evaluate the care patients received from the district nurse (patient's evaluation).

APPROACH: Forty patients treated for head and neck cancer in a university clinic and 32 district nurses are interviewed.

PROGRESS: Data collecting has been finished. The report on the pilot study will be finished in April 1979.

91. REHABILITATION OF THE HEAD AND NECK CANCER PATIENT

Robson, M. C., University of Chicago, Pritzker School of Medicine, Dept. of Surgery, *5801 S. Ellis Ave., Chicago, Illinois*, 60637, United States of America

A multidisciplinary team approach for treatment and rapid rehabilitation of head and neck cancer patients is being evaluated. Rehabilitation begins as soon as the diagnosis is confirmed, rather than being delayed until treatment has been completed. New surgical and maxillofacial prosthodontic procedures are being evaluated to reconstruct head and neck defects using microvascular anastomoses for the transfer of soft and osseous tissue and alloplastic prostheses implanted by magnets or staples. This will allow the physical reconstruction time to be dramatically shortened and total psychosocial, dental, and speech rehabilitation to be completed more effectively.

92. NUTRITIONAL REHABILITATION IN HEAD AND NECK CANCER

DeCosse, J. J., Memorial Hospital for Cancer & Allied Diseases, Dept. of Surgery, *1275 York Ave., New York, New York*, 10021, United States of America

The objective of the proposed randomized trial is to compare two methods of providing nutritional rehabilitation to patients with advanced head and neck cancer: intensive nasogastric tube feeding vs. optimal oral nutrition. The overall goal is to evaluate the effects of aggressive nutritional support on the patient's ability to tolerate and respond to radiation therapy and, in some cases, chemotherapy, as well as its effects on recurrence and survival.

Questions to be studied include differences in caloric and protein intake, weight, amount and duration of therapy, and severity of reactions to therapy; taste and smell impairment during therapy; the pattern of recovery of taste and smell following therapy and the effects of zinc therapy on this recovery; techniques for improving patient nutrition, both orally and extraorally; and the long-term consequences of aggressive nutritional support during short-term therapy.

Patients will be randomized into two groups: one will receive optimal oral nutrition and the other nasogastric feedings in addition to optimal oral nutrition. Both groups will receive support for an 11-week period. Thereafter, both groups will receive identical oral nutritional support for a two-year follow-up period.

Patients in both groups will also be randomized into groups receiving zinc therapy or a placebo to assess the role of zinc in the recovery of taste.

93. ELECTRONIC LARYNGEAL PROSTHESIS

Bailey, B. J., Leipzig, B., Everett, R. E., Young, K., University of Texas, Medical Branch at Galveston, School of Medicine, Dept. of Otolaryngology, *300 University Blvd., Galveston, Texas*, 77550, United States of America

The overall purpose of this project continues to be the development of an artificial voice source, fully encapsulated in a bio-compatible elastomer, for implantation in the neck after laryngectomy. Goals achieved during the current project year were: 1. Elimination of foreign body rejection reactions. This was achieved through use of a new encapsulant polymer and rounding of the transducer container contours. 2. Development of an experimental high-purity polyurethane elastomer for the bioencapsulant, and an outer porous surface to encourage fixation of the device in place. 3. Experiments with a high-purity rigid biocarbon device at the skin for signal and power transmission to the implanted transducer.

GOALS SET FOR THE COMING YEAR: 1. Simplification of the power and signal transmission system, using the biocarbon 'button'. 2. Refinement and testing of the polyurethane encapsulant. This will include histologic analysis of tissue reaction adjacent to the implanted material and monitoring of liver, spleen and local tissues. 3. Accelerated acoustic testing of prostheses while implanted in live and conscious animals. 4. At the end of the coming year, we plan to be prepared to begin investigation with implantation in human patients.

BIBLIOGRAPHIC REFERENCES: Young, K.A., Bailey, B.J., and Everett, R., Electronic Laryngeal Prosthesis for Implantation: A Progress Report II. Delivered before the 1979 American Speech and Hearing Association Convention, Atlanta, Georgia.

94. LARYNGEAL AND TRACHEAL CONSTRUCTION POST-RESECTION

Rush, B. F., Swaminathan, A. P., Neville, W. E., Bolanowski, P. J., Hobson, R. W., Baken, R., Gelfand, S. A., Kaufman, R. C., College of Medicine & Dentistry of New Jersey, New Jersey Medical School, School of Medicine, Dept. of Surgery, *100 Bergen St., Newark, New Jersey*, 07103, United States of America

We have recently developed operative procedures in which a bipedicle flap of cervical skin and platysma muscle can be fashioned to serve as either: 1) a substitute larynx, or 2) a substitute for up to 6 cm. of resected trachea. These procedures have been succesfully applied in patients. We plan to evaluate the physical quality of function of the substitute larynx in humans and experimental animals (mini-pigs) by the use of simultaneous records of movement, sound, air pressures and air flow to determine the shape of the new larynx and glottis which will produce the best vocal quality. We also wish to determine in experimental animals if the cervical flap will serve to replace the entire trachea for long periods of time.

95. PROSTHETIC REHABILITATION OF OROPHARYNGEAL CANCER

Logemann, J. A., Bytell, D. E., Rosen, M. S., Wheeler, R. L., Tso, H., Northwestern University, Chicago Campus, School of Medicine, Dept. of Otolaryngology & Maxillofacial Surgery, *303 E. Chicago Ave., Chicago, Illinois*, 60611, United States of America

This study is designed to evaluate the effects of an intraoral prosthesis on the communication and nutritional rehabilitation of patients, following ablative oral surgery for cancer. The ultimate goal is to develop an inexpensive, simply designed prosthesis which can facilitate rapid rehabilitation of this group of patients. Prostheses will be designed and constructed for 45 patients, 9 patients in each of the following surgical categories: 1) anterior floor of the mouth; 2) composite resection including hemimandibulectomy and excision of a portion of the palate and posterior tongue; 3) composite resection including hemimandibulectomy and excision of less than 60% of the tongue; 4) composite resection including hemimandibulectomy and excision of more than 60% of the tongue; 5) extended supraglottic laryngectomies including base of the tongue. Prior to construction of the prosthesis, each patient's vocal tract function is evaluated, including detailed studies of oral, pharyngeal and esophageal function during swallowing and oral and pharyngeal function during speech. These data are used as the basis for construction of the prosthesis. After the prosthesis is completed, each patient's function is re-evaluated. If necessary, changes are made

in the design of the prosthesis to further optimize function. A final functional evaluation is made after completion of the prosthesis. Each patient serves as his own control. The pre- and post-prosthetic functional patterns are compared to provide an objective picture of the effects of the prosthesis on the patient's day-to-day functions. Results of the evaluations will be compared within each patient group; comparisons between groups will also be made.

96. EVALUATION OF REHABILITATION OF OROPHARYNGEAL CANCER

Logemann, J. A., Bytell, D. E., Northwestern University, Chicago Campus, School of Medicine, Dept. of Otolaryngology & Maxillofacial Surgery, *303 E. Chicago Ave., Chicago, Illinois,* 60611, United States of America

This study is designed to: 1) Evaluate the effects of ablation surgery of the oral cavity and oropharynx and associated reconstructive surgery on the psychological, communicative, and nutritional rehabilitation of patients with cancers of these areas; 2) assess the effectiveness of speech and swallowing rehabilitation in improving communication and deglutition; and 3) define the most effective rehabilitation techniques used to increase the patient's speech and swallowing function. Ninety patients with oral cancer requiring surgical treatment will be studied at five points in their protocol: 1) Before initiation of any treatment; 2) after radiation, if given (pre-or post-op); 3) after ablative surgery; 4) after the final surgical procedure to close any remaining fistulas or to reconstruct oral structures and before initiation of any rehabilitative intervention; 5) six months after initiation of oral feeding and speech and swallowing therapy. On each of these testing dates, each patient will complete a thorough examination protocol including detailed studies of: 1) Oral, pharyngeal, and esophageal function during deglutition; 2) oral and pharyngeal function during speech; 3) the source (neurologic) and extent of pain he experiences, if any; 4) his pattern and method of social communication; and 5) his psychosocial status. These evaluations will generate a profile of the patient's modal functioning at each point in his recovery. With the patient acting as his own control, the pre- and post-treatment profiles will be compared to provide an objective picture of the effects of the ablative surgery, surgical reconstruction, and speech and swallowing therapy on the patient's typical psychosocial and physiologic functioning.

III. EDUCATIONAL PROGRAMS IN ONCOLOGY AND REHABILITATION FOR THERAPISTS AND ALLIED HEALTH PERSONNEL

A. TRAINING PROGRAMS FOR DENTAL PERSONNEL

97. CLINICAL CANCER EDUCATION PROGRAM (DENTAL)

Martinez, M. G., Alling, C. C., Castleberry, D. J., Bodden, R. W., Durant, J. R., Brascho, D. J., Hoffman, S., University of Alabama in Birmingham, School of Medicine, Dept. of Pathology, *1919 7th Ave. S., Birmingham, Alabama,* 35233, United States of America

The main objective of this proposal is to develop and implement an educational program to provide a broad and advanced knowledge of oral cancer to undergraduate students of dentistry, to postgraduate and graduate students, to practicing dentists, to auxiliary health personnel and to the public so that the quality of health care can be improved with the final result of a lower mortality rate from oral cancer.

This could be accomplished through: (1) Undergraduate programs for dental students, dental hygienists and dental assistants above and beyond those provided in the regular curriculum of dental schools on oral cancer; (2) special education programs for graduate and postgraduate students with new concepts in early diagnosis and management of oral malignancies; (3) continuing education courses for practicing dentists, physicians and auxiliary personnel to improve the clinical skills in the detection, prevention and rehabilitation of patients with oral cancer and to stress the increasing responsibility of the dental profession in the multidisciplinary approach to the management of patients with complications following therapy for cancer of the oral and paraoral regions; and (4) educational programs for the general public in an attempt to make them aware of the importance of early detection in curability of oral cancer, as well as in prevention of oral lesions.

98. CLINICAL CANCER EDUCATION PROGRAM

Silverman, S., Zlotolow, I., Greenspan, D., Ordway, D., Ratner, V., University of California, San Francisco Campus, School of Dentistry, Dept. of Oral Medicine & Hospital Dentistry, *551 Parnassus Ave., San Francisco, California,* 94122, United States of America

Oral cancer accounts for approximately 5% of all cancers in the United States and is keeping pace with the relative yearly increase in cancer incidence. The overall 5-year survival in these malignancies is less than 40%. Therefore, public and professional awareness of early recognition and adequate management is essential.

The objective is to combine demonstration and education in a diversified multidisciplinary program of oral cancer control for undergraduate, graduate and postgraduate dental students and dentists, as well as medical and paramedical personnel. This will be accomplished through education in the following: early cancer detection and recognition of recurrence; prevention; methods of caring for dental and paradental tissues before, during and after therapy; rehabilitation through replacement of missing tissues by prostheses and psychosocial intervention.

99. CLINICAL CANCER EDUCATION PROGRAM

Beumer, J., Christensen, R. E., Harrison, R., Herzberg, F., Sapp, J. P., Tupac, R., University of California, Los Angeles Campus, School of Dentistry, Dept. of Dentistry, *405 Hilgard Ave., Los Angeles, California,* 90024, United States of America

The purpose of this program is to increase the diagnostic and therapeutic skills of dental students, practicing dentists and associated paraprofessionals with regard to patients who have head and neck tumors. The educational program is oriented towards detection of head and neck neoplasms, maintenance of oral health and function at optimal levels throughout therapy, and rehabilitation of patients with disfiguring functional or emotional deficiencies secondary to treatment. Additionally, postgraduate education courses will be conducted for the local dental and medical community.

BIBLIOGRAPHIC REFERENCES: Beumer J., Curtis, T. and Harrison R.: Radiation Therapy of the Oral Cavity - Sequelae and Management, Part 1. Head and Neck Surgery, 1:301-312, 1979. Miller, L.W., Davis, R.M., Beumer, J., and Cullen, J.W.: Chapter 32, Physical Rehabilitation in Cancer Treatment: A Multidisciplinary Approach, ed. by C.M. Haskell. W.B. Saunders Co. (in press), 1980.

100. CLINICAL CANCER EDUCATION PROGRAM

Greer, R. O., Ryan, D. E., Boone, M. E., Golitz, L. E., Huffner, W. E., Johnson, F. B., Robinson, W. A., Wood, R. P., Jafek, B. W., University of Colorado, Health Sciences Center, School of Dentistry, Dept. of Oral Biology, *4200 E. 9th Ave., Denver, Colorado,* 80220, United States of America

The objectives of the clinical cancer education program at the University of Colorado School of Dentistry are threefold. The first objective is to enhance the diagnostic acumen of dental students, dental general practice residents, practicing dentists, faculty and associate health professionals as it relates to the detection of neoplasia of the head and neck. A second goal is to increase the management and therapeutic competence of all of the aforementioned in the realm of head and neck neoplasia. The third objective is to reinforce the concept of a team approach to the prevention, diagnosis, treatment and rehabilitation of the head and neck cancer patient.

This narrative has been prepared in accordance with an October 16, 1978 NIH directive to better regulate the length of research grant applications.

101. CLINICAL CANCER EDUCATION (DENTAL)

Weathers, D. R., Waldron, C. A., Halstead, C. L., Budnick, S. D., Baumgarten, R. F., Crawford, B. E., Emory University, School

of Dentistry, Dept. of Oral Pathology, *106 Forest Ave. N.E., Atlanta, Georgia,* 30303, United States of America

OBJECTIVES: This project seeks to improve and expand an ongoing cancer education program at Emory University School of Dentistry at the undergraduate, post-graduate and continuing education levels; develop a position of Clinical Associate in Oral Cancer at the post-residency level; develop two Clinical Assistantships in Oral Cancer at the undergraduate level; expand cancer education for dentists in the community and state and region; and continue to expand the diagnostic and consultative services of Emory University School of Dentistry at all levels of the program in an effort to improve oral cancer detection and management.

102. CLINICAL CANCER EDUCATION PROGRAM (DENTAL)

Drummond, J. F., Costich, E., Damm, D. D., Little, J. W., White, D. K., University of Kentucky, School of Dentistry, Dept. of Oral Pathology, *Limestone & Euclid, Lexington, Kentucky,* 40506, United States of America

The goal of this program is to provide more comprehensive knowledge of head and neck cancer to dental students, practicing dentists and other health professionals. This goal will be achieved through the introduction of new courses into the dental curriculum which concern head and neck cancer and through modification and expansion of the existing outreach program.

103. CLINICAL CANCER EDUCATION PROGRAM (DENTAL)

Burzynski, N. J., Miller, R. L., University of Louisville, School of Dentistry, Dept. of Oral Diagnosis & Oral Medicine, *129 E. Broadway, Louisville, Kentucky,* 40202, United States of America

The Clinical Cancer Education Program concerns itself with the instruction of undergraduates, graduates and auxiliaries in the current concepts of prevention, detection, diagnosis, treatment and rehabilitation of oral-facial cancer. Emphasis is placed on a multidisciplinary approach to cancer detection and care, with emphasis on head and neck cancer. Evaluation of various educational experiences in cancer related topics is applied to various facets of the program. Computer Assisted Self-Evaluation (CASE) programs, Symposia, and Continuing Education Courses on both the institutional and outreach levels are presented to the practitioners and auxiliaries. Clinical Cancer Assistantships are offered to interested and qualified individuals.

BIBLIOGRAPHIC REFERENCES: George, D.I., Burzynski, N.J., and Miller, R.L. Reactive Properties of Oral Lesions to the Specific Red Cell Adherence Test. Oral Surg. 47:51-57, 1979. Burzynski, N.J., Kupchella, C.E., Calhoon, T.C., and Reid, K.H. The CASE System for Cancer Education. J. of Dent. Education. April 1979, in press.

104. CLINICAL CANCER EDUCATION PROGRAM

Guerra, L. R., Legett, B. J., Kent, J., Boozer, C., Ellis, D. J., Quinn, J. H., Carr, R. F., Louisiana State University, Medical Center, School of Dentistry, Dept. of Oral Pathology, *1542 Tulane Ave., New Orleans, Louisiana,* 70112, United States of America

This program is intended to improve the status of patients with cancer through the education and training of health professionals and the general public. It provides classroom instruction; patient contact and clinical project experiences; readily available core audiovisual and reference materials; specialty training; continuing education; and public information, screening and biopsy services. It employs an array of separate but related activities directed toward dental students and auxiliaries, graduate students and practicing dentists, and the lay public. It includes both cognitive and affective learning related to the diagnosis, treatment, rehabilitation and maintenance of cancer patients. Both intramural and extramural sites are used.

105. CLINICAL CANCER EDUCATION PROGRAM - ORAL ONCOLOGY

Goldman, H. M., Feldman, M. I., Richardson, J., Mozden, P. J., Strong, M. S., Boston University, School of Dentistry, Dept. of Oral Pathology, *755 Commonwealth Ave., Boston, Massachusetts,* 02215, United States of America

The Clinical Cancer Education Program (CCEP) in the School of Dentistry has developed and now evaluated a series of educational activities as presented in the grant application. At the outset of the grant, it is noted that the intent of the proposed work was to provide dental students and practitioners with more training and education in oncology, particularly to produce enough intellectual and psychological insight in the current multidisciplinary aspects of cancer management so that the general practicing or specialized dentist might feel both equipped and motivated to participate in the management team. This work has now been conducted for 2 years at the dental school permitting a didactic lecture program in oral oncology as well as general oncology for the third year dental students, and oncology lecture program for the fourth year dental students as well as the post-graduate specialists in periodontics. In addition, small teams of third year students have visited the Department of Radiation Medicine for actual patient contact and the observation of the clinical practice of multidisciplinary oral cancer management. A faculty of medical, surgical, radiation, and head and neck oncologists as well as specialists in voice rehabilitation, maxillofacial prosthesis, pathology and other allied health professionals have been recruited to this effort. In the coming year, it is now planned to extend the educational program to the dental assistants and hygienists, and the practicing dentist by seminars at the district dental society meetings, and to evaluate in a more sophisticated fashion the cognitive and attitudinal changes accomplished through the educational interventions.

106. CLINICAL CANCER EDUCATION PROGRAM

Shklar, G., Sonis, S. T., Atwood, D., Guralnick, W., Hargreaves, A., Solt, D., Harvard University, Boston Campus, Harvard School of Dental Medicine, Dept. of Oral Medicine & Oral Pathology, *188 Longwood Ave., Boston, Massachusetts,* 02115, United States of America

OBJECTIVE: A comprehensive and multidisciplinary program of education in clinical oral cancer aimed at improving the early diagnosis, treatment and overall care of the patient with oral cancer, as well as the oral care of all cancer patients, particularly those undergoing active therapy. The program will involve undergraduate dental students; graduate dental students; dentists, physicians, dental hygienists, dental assistants, visiting nurses, public health nurses and other health personnel in the community; medical students, interns and residents in the various Harvard affiliated hospitals. Subject matter will deal with all phases of the oral cancer treatment ranging from prevention through screening, diagnosis, therapy, up to rehabilitation. The teaching of oral and dental care for all cancer patients will be developed and presented to undergraduate and graduate dental students as well as to dentists and auxiliary dental personnel in the community, with clinical experience in the setting of a Comprehensive Cancer Center as well as in other appropriate facilities. A major part of the program will be the continued development of graduate education in oral oncology, with three clinical associates per year receiving training and experience in all phases of oral cancer management, providing an opportunity for developing comprehensive skills in a specialized field of oral oncology such as maxillofacial prosthetics.

107. CLINICAL CANCER EDUCATION PROGRAM

Cataldo, E. F., Tufts University, Boston Campus, School of Dental Medicine, Dept. of Oral Pathology, *136 Harrison Ave., Boston, Massachusetts,* 02111, United States of America

An integrated preclinical and clinical cancer education program for all undergraduate dental students is proposed utilizing combined resources of Tufts University School of Dental Medicine, Tufts University School of Medicine and the New England Medical Center Hospitals. The objectives of the program are directed to preparing the dental student to: Better understand and appreciate the nature of cancer problems and principles of their management in order to enable them to practice better dentistry; develop improved skills in the diagnosis and management of oral cancer; develop the ability to recognize or suspect certain cancer problems which may come to their attention and to appreciate the need for and technique of referring patients with such problems to physician colleagues.

The overall educational program may be summarized as: 1. Preclinical dental science of oral oncology: a. Introduction to oral oncology. b. Oral pathology of cancer. c. Oral oncology lectures. 2. Introduction to clinical medicine: a. Physical diagnosis: History and physical exam. b. Medical lectures: General

pathology, oral pathology, oral medicine, head and neck cancer, laboratory medicine, clinical pharmacology. 3. Clinical medicine: a. Medical lectures (ear, nose and throat, common malignancies, chemotherapy, radiotherapy). b. Hospital clerkship (medical oncology, radiotherapy, otolaryngology).

108. CLINICAL CANCER EDUCATION PROGRAM

Gier, R. E., Barker, B., Feil, P., University of Missouri, Kansas City Campus, School of Dentistry, Dept. of Oral Diagnosis, *10th & Troost Sts., Kansas City, Missouri*, 64110, United States of America

This project will design and implement (a) a multidisciplinary education program in head and neck cancer for the undergraduate dental student and dental hygiene student; (b) a continuing education program for dental practitioners, dental auxiliaries, physicians, nurse practitioners; and (c) a public education program.

The program will provide multidisciplinary classroom and clinical instruction to dental students in (a) the detection and diagnosis of head and neck cancer, (b) the dental evaluation and complementary dental treatment of the patient, (c) treatment modes, (d) psychosocial aspects of the dentist-patient relationship, (e) nutritional problems of the cancer patient. Students will be involved in simulated case studies, and case presentations. Dental students will receive beginning-to-end clinical experience with head and neck cancer patients and extensive clinical experience with cancer patients referred from hospitals in a four county area. Students will also participate in tumor boards and make use of a tumor registry.

The hygiene program will include some classroom instruction in such areas as detection, complementary dental treatment, nutrition, psychological needs and reactions of the cancer patient. Hygiene students will also participate in the head and neck cancer clinic.

A series of continuing education programs will be developed for health professionals involved in the diagnosis and treatment of head and neck cancer. Each program will be composed of a formal presentation and a workshop. A series of clinical pathology conferences will also be organized.

109. CLINICAL CANCER EDUCATION PROGRAM

El Mofty, S. K., Washington University, School of Dental Medicine, Dept. of Biomedical Science, *4559 Scott Ave., St. Louis, Missouri*, 63130, United States of America

Washington University School of Dental Medicine proposes a Clinical Cancer Education Program which will coordinate and improve the teaching about neoplasia at the undergraduate, postgraduate and continuing education levels. Fundamentally this program will be a continuation and expansion of a previous program. At the undergraduate dental student level the following changes are proposed: 1) To improve, revise, and enlarge the self-teaching program in pathology, 2) to continue the autopsy and Radiation Oncology Screening Program rotations, 3) to enlarge the Oral Oncology course for senior dental students from sixteen to eighteen hours, 4) to create an eighteen hour course on dental radiology and 5) to continue the senior biopsy requirement. At the postgraduate level we propose to: 1) Enlarge the Advanced Oral Pathology course from eighteen to thirty-six hours with a great majority of this time devoted to the recognition of oral lesions and 2) to encourage the attendance and participation of the postgraduate students in the Oral Oncology course. At the continuing dental education level we propose to offer an all-day symposium on head and neck cancer for the dental profession (all of the dental profession, not just dentists) and to make this program available to our undergraduates and postgraduates at no cost.

110. CLINICAL CANCER EDUCATION GRANT

Kutscher, A. H., Zegarelli, E. V., Marder, M. Z., Zegarelli, D. J., Schoenberg, B., Columbia University, School of Dental & Oral Surgery, Dept. of Stomatology, *Broadway & W. 116th St., New York, New York*, 10027, United States of America

This Clinical Cancer Education Continuation Grant Application is again submitted following progress performed under a 8-year Clinical Cancer Training Program (undergraduate) at this institution, funded by NCI until termination on June 30, 1976 and specifically following refunding in part as of 7/1/77. In the present 3 year (7/77-6/80) Clinical Cancer Education Grant, now in progress in its second year, the constructs of the previous grant are being continued and where possible expanded. These include: a) integration and rotation of a student population (undergraduate dental students, dental hygiene students, and dental assistants) through related oncologic disciplines; b) emphasis on diagnosis and treatment; c) cooperation with all pertinent medical center departments, clinics, operating rooms, laboratories, head and neck tumor conferences and follow-up clinics, etc.; d) clinical stomatology conferences; e) an expanded series of didactic lectures; f) participation of dental students in the ongoing major elective in oral surgery; g) extensive orientation to psychosocial aspects of oral cancer and its management.

The current grant (operating for the second year) stresses again, among others, the following major new foci: 1) training regarding all facets of premalignant oral disease (including the concept of malignant transformation, care approaches employed in a clinic to be devoted to premalignant lesions, and familiarization with a nearly inaugurated premalignancy tumor registry for erosive and ulcerative lichen planus); 2) expanded (multiple approach) mouth care programs for all cancer patients; 3) major expansion of the multidisciplinary medical psychosocial program; 4) development of additional cancer-oriented, new diagnostic and care (pain) research programs.

BIBLIOGRAPHIC REFERENCES: Zegaralli, D.J. and Zegarelli, E.V. Chrondroma of the Tongue - Case Report with Ultrastructure and a Review of Literature. Oral Surgery, 43:738-745, 1977.

111. CLINICAL CANCER EDUCATION PROGRAM

Bakemeier, R. F., Carson, C. A., Salazar, O. M., Rubin, P., Deegan, J., University of Rochester, School of Medicine & Dentistry, Dept. of Medicine, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

This Cancer Education Program at the University of Rochester School of Medicine and Dentistry and the School of Nursing is multidisciplinary and encompasses medical and nursing student cancer education, resident and postdoctoral Clinical Associate cancer education, and assists in continuing cancer education for physicians and nurses and cancer education for the public. Development of teaching instruments for several of these levels, and development of evaluation methods are important projects in this Program.

112. CLINICAL CANCER EDUCATION PROGRAM - DENTAL

Greene, G. W., Natiella, J. R., Meenaghan, M. A., Schaaf, N. G., Pickren, J. W., Shedd, D. P., State University of New York, Health Science Center at Buffalo, School of Dentistry, Dept. of Oral Pathology, *3435 Main St., Buffalo, New York*, 14214, United States of America

The Cancer education program has coordinated and produced a comprehensive core curriculum with several special programs designed to broaden the scope of the present curriculum. Our review of cancer education in various disciplines, e.g., oral pathology, oral surgery, oral medicine, prosthetics and comprehensive dental care indicates we have structured a program which will benefit dental and medical students and residents, postdoctoral trainees, practicing dentists, physicians, nurses, dental hygienists and dental assistants. A program has been developed on cancer awareness with the local and regional dental and medical society members and a head and neck program has been presented. A hospital program for postdoctoral trainees specifically related to head and neck cancer has been implemented. A hospital program on autopsy and surgical pathology has been implemented for medical and dental pathology residents. A logbook has been instituted in our comprehensive care clinic and all unusual lesions are recorded and followed until a definitive diagnosis is made. All cases are seen on a consultative basis with at least one member of the Oral Pathology Department. This program has helped cancer education of our clinical dental faculty enormously. Our preventive dental clinic has developed an indoctrination and expansion of duties for dental hygienists and dental assistants. These programs were initially proposed and are presently in their early development. It is hoped that we will be able to give a realistic evaluation of its effectiveness in cancer education after three years of operation.

113. CLINICAL CANCER EDUCATION (DENTAL)

Lepley, J. B., Argerakis, G., Scannell, J. B., Strong, E., Stoll, J. B., Memorial Hospital for Cancer & Allied Diseases, Dental Service, *1275 York Ave., New York, New York*, 10021, United States of America

The objective of this program is to educate three Clinical Associates annually in an A.D.A. approved curriculum in maxillofacial prosthetics.

The Associates will receive both clinical and didactic training in all aspects of maxillofacial prosthetics, particularly those aspects relating to the treatment of patients with head and neck cancer. The education they receive at Memorial Hospital will be multidisciplinary and will include clinical involvement with such areas as radiotherapy, chemotherapy, surgery, rehabilitation, etc.

The Associates will also attend lectures and courses at the New York University College of Dentistry and the U.S. Naval Graduate School of Dentistry. These lectures and courses, combined with lectures and seminars to be attended at Memorial Hospital, will provide strong academic training in both maxillofacial prosthetics and cancer treatment.

The Associates will receive education and training that will enable them, upon graduation, to assume faculty and staff positions at dental schools, medical centers, and cancer centers. These individuals, when assuming such positions, will have the broad viewpoint of cancer patient management so vital to the multidisciplinary approach necessary for both teaching and clinical practice.

114. ORAL/HEAD AND NECK CLINICAL CANCER EDUCATION PROGRAM

Watkins, F. S., Young, S. K., University of Oklahoma, Health Science Center, School of Dentistry, Dept. of Continuing Dental Education, *Box 26901, Oklahoma City, Oklahoma*, 73190, United States of America

This project will design and implement additions for a multidisciplinary education program which addresses three major components of dental care in oral/head and neck cancer. The program consists of educational activities for dental health professionals and consumers which will provide sources of training, coordination and an information exchange for Oklahoma dental students, dental hygiene students and dental practitioners. The consumer education program will provide information on oral cancer and instruction on self-examination to persons identified as regular dental patients and to the public sector who may or may not seek regular dental care.

The professional educational program will be developed through symposia, workshops, development of audiovisual materials, and development of a patient referral information system. Further educational experiences will be provided through a dental oncology unit which will provide opportunties for dental management of the oral/head and neck cancer patient.

A formative evaluation will be planned to address the need to determine what Oklahoma dentists know and don't know about oral/head and neck cancer, the problems of patient adherence to the self-examination technique, the effects of instruction on the number of oral/head and neck cancer patient referrals and the mechanism of the educational system being developed.

115. CLINICAL CANCER EDUCATION GRANT

Pliskin, M. E., University of Pennsylvania, School of Dental Medicine, Dept. of Pathology, *4001 Spruce St., Philadelphia, Pennsylvania*, 19104, United States of America

The overall objectives of the Clinical Cancer Education Grant are to train and educate dental, graduate, postgraduate and dental hygiene students to become competent in the detection, diagnosis and management of head and neck cancer with specific emphasis on oral cancer. These objectives will be accomplished by developing a program which utilizes the following cancer educational mechanisms: 1. Surveillance. 2. Head and Neck Cancer Teams and Principles of Referral. 3. Routine Dental Care for Oncology. 4. Development of Individualized Treatment Plans for Oncology Patients' Home Care Regimen. 6. Follow-up for Oncology Patients. 7. Hospital Dentistry. 8. The Dentist's Role in Cancer Care.

116. CLINICAL CANCER EDUCATION GRANT

Verbin, R. S., Aramany, M. A., Myers, E., Zaki, H. S., Fischer, W., University of Pittsburgh, School of Dental Medicine, Dept. of Diagnostic Services, *C336 Salk Hall, Pittsburgh, Pennsylvania*, 15213, United States of America

It is the objective of this program to augment our basic cancer education curriculum with an integrated, readily identifiable, multidisciplinary didactic course coupled with expanded clinical experiences. The didactic component will be structured into a new block of curricular time which will represent a required course for the entire third year class of dental students. Additional clinical experiences will be provided via participation in the various activities of the Regional Center for Maxillofacial Prosthetic Rehabilitation. In this latter facility, the students will be engaged in: (1) The further development of skills in proper examination procedures; (2) teaching patients a routine that can be utilized for self-examination of the oral cavity; (3) pretherapeutic evaluation of new cancer patients; (4) management of irradiated patients; (5) management of patients on chemotherapeutic regimens; (6) operating room procedures; (7) providing dental care for oral cancer patients.

117. CLINICAL CANCER - DENTAL

Miller, A. S., Mohnac, A. M., Simpson, T., Ries, G., Harwick, R. D., Chen, S., Fantasia, J. E., Temple University, School of Dentistry, Dept. of Pathology, *3223 N. Broad St., Philadelphia, Pennsylvania*, 19122, United States of America

Temple University School of Dentistry proposes institution of a Clinical Cancer Education Program to coordinate, expand and augment cancer education at the undergraduate and postgraduate levels, as well as the dental hygiene and continuing education programs. Part of the program will be conducted at extramural locations, such as Temple University Hospital and American Oncologic Hospital, by the coordinator of hospital dentistry. This will provide hospital and tumor clinic exposure for dental students and dental hygiene students. We propose continuing a program of oral health care for patients undergoing radiation therapy for malignant oral, head and neck neoplasms, involving graduate students in periodontology and dental hygiene students. The general program objectives are to: (1) Provide undergraduate and postgraduate dental students and dental hygiene students with the basic principles of cancer biology, epidemiology, detection, diagnosis, treatment, prevention and control; (2) establish appropriate attitudes and motivation for continued education regarding cancer, which will carry over into the practice years; and (3) develop and foster concepts of cooperative humane care for the oral cancer patient, especially oral rehabilitative care. The overall administration of the Clinical Cancer Education program will be through the Department of Pathology in cooperation with the Cancer Education Committee and the Departments of Oral Surgery and Oral Diagnosis.

BIBLIOGRAPHIC REFERENCES: Goldstein, R.H., Byrne, J.E. and Miller, A.S.: Clinical-Pathological Conference - Chronic sclerosing osteomyelitis. J. Oral Surg. 37:52-53 and 37:101-102, 1979. Chen, S.-Y. and Miller, A.S.: Neurofibroma and Schwannoma of the oral cavity. A clinical and ultrastructural study. Oral Surg. 47:522-528, 1979.

118. CLINICAL CANCER EDUCATION PROGRAM (DENTAL)

McCarty, G. A., Wells, J. E., Butts, H. C., Brown, D. M., Cipra, D., Coury, V. M., University of Tennessee, Center for the Health Sciences, School of Dentistry, Removable Prosthodontics & Maxillofacial Prosthetics Dept., *62 S. Dunlap St., Memphis, Tennessee*, 38103, United States of America

OBJECTIVES: To develop and maintain an active, coordinated approach to clinical cancer education for the dental community. To increase competence of the students in the oral cancer screening examination, biopsy, and cytology techniques and to promote their routine use in general practice. To provide increased clinical experience in the dental management and treatment of oral cancer. To provide the opportunity for the student to become proficient in the dental management of patients receiving radiotherapy and chemotherapy treatment for head and neck cancer. To provide increased opportunity for students to participate in maxillofacial prosthetic rehabilitation procedures for head and neck cancer patients. To provide con-

tinuing cancer education of both a clinical and a didactic nature for the dental practitioners of this geographical area.

119. CLINICAL CANCER EDUCATION PROGRAM (DENTAL)

Elzay, R. P., Virginia Commonwealth University, School of Dentistry, Dept. of Oral Pathology, *901 W. Franklin St., Richmond, Virginia*, 23284, United States of America

The purpose of the application is to obtain financial assistance to improve cancer education for dental students, dental hygiene students, postgraduate students, faculty and practitioners beyond the content of the existing cancer program in the dental school curriculum. The goals of the program will be: 1. To continue to improve and extend cancer education for undergraduates, postgraduates, dental hygienists, practicing dentists and faculty. 2. To make our dentists and patients aware of the existing informational material available through our Health-Line (Dial-A-Tape) Program and promote the use of these resources. 3. To implement a continuing educational oral cancer detection activity within the State of Virginia. 4. To continue an ongoing objective, orderly analysis and evaluation of the Oral Cancer Curriculum within the School of Dentistry. 5. To assist in the maintenance of the established Oral Tumor Registry, Computerized Oral Tumor Recall Program, and Recall and Referral Clinic as educational instruments at the undergraduate, graduate and postgraduate levels.

B. TRAINING OF OTHER THERAPISTS IN CANCER PATIENT REHABILITATION

120. GYNECOLOGIC CANCER EDUCATION

Shingleton, H. M., Gore, H., Younger, J. B., Taylor, P. T., Hatch, K. D., Austin, J. M., University of Alabama in Birmingham, School of Medicine, Dept. of Obstetrics & Gynecology, *1919 7th Ave. S., Birmingham, Alabama*, 35233, United States of America

This is a continuation of a grant supporting physician, nurse and patient education by means of a nurse practitioner training program, physician education through colposcopy training and day by day assistance with patient management through a Wats Line telephone system for trophoblastic disease patients. The colposcopy and nurse practitioner units are in the evaluation phase as well.

BIBLIOGRAPHIC REFERENCES: James W. Orr, Jr., J. Maxwell Austin, Kenneth D. Hatch, Hugh M. Shingleton, J. Benjamin Younger, Larry R. Boots, Acute Pulmonary Edema Associated with Molar Pregnancies: A High-Risk Factor for Development of Persistent Trophoblastic Disease, Am. J. Obstet. Gynec. 136:412-415, 1980. Kenneth D. Hatch, Hugh M. Shingleton, Benjamin Younger, Larry Boots, Elevated Beta HCG Titers in Oopherectomized Women Being Treated for Trophoblastic Disease, Am. J. Obstet. Gynec. 137:122-126, 1980.

121. GYNECOLOGIC ONCOLOGY GROUP

Rotman, M., New York Medical College, Manhattan Campus, School of Medicine, Dept. of Obstetrics & Gynecology, *1249 5th Ave., New York, New York*, 10029, United States of America

OBJECTIVES: To form a group of collaborating institutions to engage in joint clinical investigations in Gynecologic Malignancy. Cooperative studies will be undertaken to advance knowledge in the curative and palliative management of gynecologic malignancy. Through the combined efforts of the gynecologic oncologists, radiotherapists, pathologists, immunologists and medical oncologists and conducting a cooperative study it may be possible to provide an adequate number of patients to answer significant questions in the treatment of cancer, not previously answerable by any single institutional study.

This group will collect long-term data with regard to epidemiology, patient survival, and complications resulting from various treatment plans. The group will be a cooperative multidisciplinary and multi-institutional venture which integrates study programs in gynecologic cancer and will enrich training programs in gynecologic and medical oncology and radiation therapy.

122. CLINICAL CANCER EDUCATION PROGRAM

Evans, A. E., Raney, R. B., Fergusson, J., Ross, J., Combrinck Graham, L., Children's Hospital of Philadelphia, Division of Oncology, *3400 Civic Ctr. Blvd., Philadelphia, Pennsylvania*, 19104, United States of America

The purpose of this Clinical Cancer Education Program is to provide a wide range of clinical cancer education in pediatric oncology to students of different disciplines and many levels of education. The clinical program of the Division of Oncology serves as the educational 'laboratory' for the students who are provided with a core program of rounds and lectures; individual programs are designed for each student's special needs. The students range from undergraduates in the fields of dentistry, medicine, nursing, social service, to advance full-time trainees planning a career in academic pediatric oncology. It is the aim of the program to portray the ideal care of a child with cancer in the hospital, the outpatient clinic and the community, using multimodal therapy and supportive care in a continuum from diagnosis until long after death, should it occur.

123. CLINICAL CANCER EDUCATION PROGRAM/ PEDIATRICS

Leikin, S. L., Champion, L. A., Movassaghi, N., Randolph, J. G., Children's Hospital National Medical Center, *111 Michigan Ave. N.W., Washington, District of Columbia*, 20010, United States of America

In order to increase and extend better pediatric cancer care into the community an expansion of the educational program at the Children's Hospital National Medical Center is proposed. The position of cancer education coordinator will be established. This individual's responsibility will be to arrange for teaching seminars in the basic and clinical sciences relative to pediatric cancer. The educational program will be directed at medical students, house staff, and practicing physicians. The teaching associates will assist in this instruction. In turn, the teaching associates will be the recipients of advanced training in pediatric oncology by the full-time staff and outside resources as developed by the cancer education coordinator. The cancer education program will be both intramural and extramural. In conjunction with this effort a series of audio-visual slide programs will be prepared and utilized for educational purposes and will be distributed to a number of health related organizations. In addition, a booklet will be prepared for distribution to parents of patients and to the lay public to instruct them in the basic facts about the more common solid tumors of infancy and childhood.

124. CANCER CONTROL PROGRAM FOR FAMILY PRACTITIONERS

Jackson, C. B., Maddox, P. F., Blumenschein, G. R., Nelson. R. S., Wharton, J. T., Martin, R. G., Jesse, R. H., University of Texas, University of Texas System Cancer Center, M.D. Anderson Hospital & Tumor Inst., Extramural Programs Division, *6723 Bertner Ave., c/o Texas Medical Ctr., Houston, Texas*, 77030, United States of America

The Cancer Control Program for Family Practitioners is designed to create an awareness of cancer as a disease and as a public health problem and to introduce the family practitioner to his role in cancer control at the community level. The program is offered in two parts: 1) an intrainstitutional rotation in oncology at UTSCC for family practice residents and 2) an extrainstitutional program in participating community hospitals. The one- or two-month rotation is divided into two-week segments devoted to four major sites of cancer: 1) breast, 2) head, neck, and skin, 3) gastrointestinal tract, and 4) gynecologic structures. The extrainstitutional program consists of educational programs in oncology given by UTSCC faculty at training hospitals for family practice residents that request them. Both components of the program provide current knowledge of prevention, detection, diagnosis, treatment, and rehabilitation of patients with cancer and of specialized facilities available and needed for these interventions.

125. CLINICAL CANCER EDUCATION PROGRAM

Hall, L. R., Kansas City College of Osteopathic Medicine, Graduate School, Dept. of Surgery, *2105 Independence Blvd., Kansas City, Missouri*, 64124, United States of America

This four-year College of Osteopathic Medicine requires a B.A. or B.S. degree for entry. It is a private institution, tuition supported, fully accredited by the American Osteopathic Association, receiving no Missouri State support. Every student takes a fixed curriculum in the first three years. The later

afternoon is open to third year students for approved electives. The fourth year is entirely clinical with approved electives, including oncology service, and required rotation services. Cancer education program is primarily based at a 426-bed teaching hospital on campus and in College classrooms and clinic. An intensive twelve hour 'Introduction to Oncology' course is presented in the junior year. Every junior attends a nine week 'Cancer Conference' using patients and also presenting eighteen American Cancer Society teaching films. There are weekly multidisciplinary tumor board meeting. Surgical journal club weekly emphasizes cancer. Annual popular two-day cancer teaching session for physicians is organized. Multidisciplinary approach is emphasized in this College stressing the training of family physicians. House staff and students attend cancer patients in hospitals and outpatient clinics. Principal investigator directly supervises all activities.

Multiple affiliated and cooperating hospital services, local and distant, plus rotations in offices of practicing physicians afford a pragmatic approach to medical practice.

126. MODEL REGIONAL TROPHOBLASTIC DISEASE PROGRAM

Morrow, C. P., Schlaerth, J. B., Nalick, R. H., Yordan, E. L., Wallace, D. L., O'Brien, T. J., d'Ablaing, G., Gaddis, O., Shen, J., Townsend, D. E., University of Southern California, School of Medicine, Dept. of Obstetrics & Gynecology, *2025 Zonal Ave., Los Angeles, California*, 90033, United States of America

The Gynecologic Oncology Program encompasses all of the professional, educational, and research activities of the Division of Gynecologic Oncology, Department of Obstetrics and Gynecology, University of Southern California/Los Angeles County Medical Center. This division has distinguished itself in each of these areas of gynecologic oncology despite its setting within a county facility with very limited funds and a large patient service responsibility. The division's many achievements can be attributed to several factors, the most important of which are a talented, dedicated staff and funding from outside the county government and University, the majority of which has been derived from NIH sources.

The primary objectives of our oncology program are: (1) To continue the outreach programs: a) Pap screening of high risk, indigent women in the Los Angeles area (Porta Pap Project), b) hCG and consultative service for trophoblastic disease in the western states (Trophoblastic Disease Program), and c) the registration, examination and follow-up of women exposed to stilbestrol in utero (DESAD project). (2) To provide optimal diagnostic and therapeutic care for our patients with pre-invasive and invasive gynecologic cancers at this medical center. (3) To continue to improve cancer education for our patients, medical students, interns, residents, and community physicians through lectures, publications, postgraduate programs, seminars, and bedside teaching. (4) To educate physicians who will become cancer educators in academic and community environments. (5) To provide expert consultative services to the community physicians. (6) To work toward better cancer diagnosis and management by continuing to improve our clinical and applied laboratory research in gynecologic oncology in this university setting with its large patient population.

127. RADIATION THERAPY ONCOLOGY GROUP

Kligerman, M. M., Sala, J. M., Shaw, M., Khan, M. M., Key, C. R., Black, W. C., Mettler, F., Lane, R. G., University of New Mexico, School of Medicine, Cancer Research & Treatment Center, *University Hill N.E., Albuquerque, New Mexico*, 87131, United States of America

This project is designed to assist radiation oncologists at the Cancer Research and Treatment Center (CRTC) in increasing the number of accessions to Radiation Therapy Oncology Group (RTOG) protocols, and maintaining a maximum number of available patients on these protocols. It will also assist the center in coordinating the statistical base of the pi meson research program being conducted by the CRTC in concert with the Los Alamos Scientific Laboratory, with the statistical requirements of the RTOG. The specific objectives of this project are: (1) Implementation of as many RTOG protocols as possible at the CRTC and UNM-affiliated hospitals; (2) accession of cases at as high a level as possible, but, at minimum, at a level adequate to maintain full membership within the RTOG; (3) education of oncologists and community physicians throughout the state regarding the RTOG studies and their potential benefit; (4) education of CRTC oncology staff in improved techniques for radiation therapy alone and in combination with other modalities; and (5) collaborative arrangements with the RTOG for completion and evaluation of Phase I and II studies of pion radiation and beginning of Phase III studies.

128. ESTABLISHMENT OF A PHARMACY CLINICAL CLERKSHIP IN ONCOLOGY

Fortner, C. L., Grove, W. R., Kerr, R., Finley, R., Wiernik, P. H., U.S. Dept. of Health & Human Services, Public Health Service, National Inst. of Health, National Cancer Inst., Clinical Research Pharmacy Section, *Baltimore, Maryland*, 21201, United States of America

The Clinical Research Pharmacy Section of the BCRP has joined with the University of Maryland School of Pharmacy in establishing a clinical clerkship in oncology for students obtaining their Doctor of Pharmacy degree. This clerkship is an elective four week rotation.

The objective is to provide a clinical experience in oncology. The students are to understand the criteria for oncology research/treatment protocols, i.e., patient selection, study design and evaluation of study. They will gain experience in cancer therapy, toxicities and the management of non-neoplastic concurrent medical/social problems.

The pharmacy student should gain experience in both the inpatient and ambulatory areas.

129. DEVELOPMENT OF A COURSE ON CANCER PREVENTION

Greenberg, S. B., Northeastern University, School of Pharmacy & Allied Health Professions, Physicians Assistant Program, *360 Huntington Ave., Boston, Massachusetts*, 02115, United States of America

No summary has been provided to the Smithsonian Science Information Exchange.

C. ONCOLOGY NURSING PROGRAMS

130. CANCER CONTROL - DEVELOPMENTAL AND SUPPORT GRANT

Gams, R. A., University of Alabama in Birmingham, School of Medicine, Dept. of Medicine, *1919 7th Ave. S., Birmingham, Alabama*, 35233, United States of America

The Cancer Control Developmental and Support Grant includes an administrative core which supports activities in rehabilitation and continuing care, information system modules for an outreach protocol system, screening and detection, evaluation of programs and three demonstration projects: an OB-GYN Nurse Practitioner Program which has graduated 104 students as of July 1978; a Colposcopy Program which has established 14 colposcopy clinics in Alabama; and a General Oncology Nurse Practitioner Program which has four students enrolled for the first session.

131. DEVELOPMENT OF A MODEL PROGRAM IN ONCOLOGY NURSING EDUCATION

Belcher, A. E., University of Alabama in Birmingham, School of Nursing, *Birmingham, Alabama*, 35294, United States of America

No summary has been provided to the Smithsonian Science Information Exchange.

132. CORE FACILITIES - OUTPATIENT NURSING UNIT

Durant, J. R., University of Alabama in Birmingham, School of Medicine, Dept. of Medicine, *1919 7th Ave. S., Birmingham, Alabama*, 35233, United States of America

This is part of a broader project. A summary of this subproject is not available.

133. COMPREHENSIVE NURSING CARE OF THE CANCER PATIENT

Derdiarian, A., Vredevoe, D., University of California, Los Angeles Campus, School of Nursing, *405 Hilgard Ave., Los Angeles, California*, 90024, United States of America

The purpose of this research is to improve nursing care of the cancer patient. The objectives are: 1) to evaluate the reactions of cancer patients to the changes in their perceptions and

experiences after the diagnosis and initiation of treatment of cancer, 2) to develop an assessment tool to be used to identify not only the apparent problems but also the less apparent and underlying problems.

An evaluative survey study will examine the nature of the reactions of cancer patient to the diagnosis and treatment of cancer. Those reactions will be viewed through the Johnson Conceptual Framework. Problems will be identified within each of the eight subsystems of the model and categorized according to the types of problems the model describes. Analysis of each subsystem in relation to the others will be done to determine the nature and degree of the imbalance in that particular subsystem(s).

This approach will be one of the first attempts in nursing research to evaluate, in a research manner, nursing problems of cancer patients based on a comprehensive conceptual framework. The study will be developed from pilot work already completed by the researchers in collaboration with a graduate student. This pilot study identified significant areas of change in each of the subsystems defined by the conceptual framework among a group of cancer patients. The study proposed here will provide a comprehensive and comparative examination of changes in patients' perceptions and experiences after diagnosis of cancer.

134. DEVELOPMENT OF A MODEL PROGRAM IN ONCOLOGY NURSING EDUCATION

Adams, G., California State University & Colleges, San Jose State University, School of Applied Sciences & Arts, Dept. of Nursing, *Washington Sq., San Jose, California*, 95192, United States of America

No summary has been provided to the Smithsonian Science Information Exchange.

135. STUDIES OF NURSING CARE FOR CANCER PATIENTS

Diers, D., Yale University, School of Medicine, *333 Cedar St., New Haven, Connecticut*, 06510, United States of America

This is part of a broader project. A summary of this subproject is not available.

136. CANCER CENTER SUPPORT GRANT

Steiner, J. W., Warnecke, R. B., Oleske, D., McGuire, W., Haenszel, W., Hauck, W., Vaughan, T., Illinois Cancer Council, *36 S. Wabash Ave., Suite 700, Chicago, Illinois*, 60603, United States of America

The Center received Core support on December 1, 1978. A full-time director assumed his responsibilities on January 1, 1979.

Staffing has progressed in accordance with the plan. An Associate Director for Clinical Programs, and Assistant Program Directors for Rehabilitation, Biostatistics, and Epidemiology were hired. A search for an Associate Director for Cancer Control is in process.

The highest priority for development is in the Clinical Research area. Applications have been prepared for an R01 and a P01 project, and development of a number of in-house protocols has been initiated. The Gynecologic Oncology Group program began accessing adequate numbers of patients so as to merit the submission of an application for funding of this regional project.

The Division of Research Resources has been actively developing computer programs to assist the activities of the Protocols Office. The development of the database has progressed actively and specialized modules are being planned to subserve subsequent research projects. Epidemiological studies have been planned or are in progress to include the mapping of potential risk areas in the state, a study of a cohort of Latinos in Chicago who are in transition from a low to a high colon cancer area, etc. The Cancer Information Service has continued functioning and is beginning to benefit from the Cancer Information Needs Study which is in progress. A community oncology program is in an advanced stage of planning, involving hospitals in the community which are not connected with a university. The educational endeavor has centered largely on gap areas in oncology nursing education and in pediatric nursing education.

137. PROGRAM FOR CANCER NURSING

Anderson, S., Mayo Foundation, *200 1st St. S.W., Rochester, Minnesota*, 55901, United States of America

This is part of a broader project. A summary of this subproject is not available.

138. CENTER FOR CANCER NURSING RESEARCH DEVELOPMENT

Oberst, M. T., Memorial Hospital for Cancer & Allied Diseases, *1275 York Ave., New York, New York*, 10021, United States of America

The Division of Nursing of Memorial Hospital proposes to develop a center for clinical research in cancer nursing for the improvement of care to patients. Specific objectives are to: 1. Establish an organizational framework which provides support to research efforts for the improvement of care to cancer patients and the development of nursing theory. 2. Identify, support and develop research interests and competencies of nurse practitioners specializing in cancer. 3. Select, develop, implement and evaluate studies in cancer nursing. 4. Facilitate research based changes in nursing practice. 5. Assess selected patient care delivery systems. 6. Provide research opportunities for students and others interested in improving health care for cancer patients through intermural/intramural collaboration. 7. Disseminate research findings through oral and written communications. 8. Identify funding resources for continuation and expansion of cancer nursing research.

139. DEVELOPMENT OF A COURSE ON CANCER PREVENTION

Reed Ash, C., Memorial Hospital for Cancer & Allied Diseases, *1275 York Ave., New York, New York*, 10021, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course on prevention, focusing on cancer, for nurse practitioners.

140. ONCOLOGY NURSING

Brown, J., University of Rochester, School of Medicine & Dentistry, Dept. of Pathology, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

This is part of a broader project. A summary of this subproject is not available.

141. A PILOT DEMONSTRATION DETECTION PROGRAM

Greco, V. F., Schulman, N., Tucker, R. S., Teitelbaum, C., Community Cancer Corp. of Luzerne County, *Box 1345, Wilkes Barre, Pennsylvania*, 18703, United States of America

This pilot detection program is the first effort in implementing a cancer control plan, begun by area physicians several years ago and supported in part by a Cancer Center Planning Grant. The pilot proposes to use specially trained nurse clinicians to perform screening tests and examinations in Luzerne County, Pennsylvania. During the three-year program, nurses, recruited from the community and trained at Hahnemann Oncologic Institute, will perform complete screening examinations in two hospital-based clinics. A projected population of 10,944 people over the age of 40 will be screened for cancer of the mouth, throat, cervix, prostate, breast, skin, and rectum.

Demonstration pilot efforts include the training and utilization of nurse clinicians in this unique fashion, study of variables in patient participation, acceptance of nurse clinicians by both patients and physicians, examination of the validity and reliability of this form of community based cancer screening, analysis of cost variables and the progressive development of programmatic self-support by the community. The pilot is further designed to encourage the introduction of a single county tumor registry and to encourage additional epidemiologic research in future years although funds are not requested for these purposes here.

The applicant is the Community Cancer Corporation of Luzerne County (CCC), a new non-profit corporation which has been created to plan and manage this and other cancer related service projects. The corporation and indeed this pilot request are an outgrowth of the extremely high incidence of cancer in the county, the high degree of physician and community support for the project and the potential applicability of the pilot to other similar regions of the country.

142. NURSING CARE

Hilkemeyer, R., University of Texas, University of Texas System Cancer Center, M.D. Anderson Hospital & Tumor Inst., Dept. of Surgery, *6723 Bertner Ave., c/o Texas Medical Ctr., Houston, Texas,* 77030, United States of America

This is part of a broader project. A summary of this subproject is not available.

143. COMMUNITY-BASED CANCER NURSING EDUCATIONAL PROGRAM

Hongladarom, G. L., Welch, D. A., Fred Hutchinson Cancer Research Center, Extramural Program, *1124 Columbia St., Seattle, Washington,* 98104, United States of America

Recent advances in cancer treatment and management have led to more persons living longer with cancer and, with increasing frequency, they allow these people to receive their continuing treatment, rehabilitation and terminal care in their own communities.

Our program has two broad objectives: (1) to implement a cancer nursing curriculum which includes cancer prevention and detection, as well as the nursing management of specific aspects of cancer treatment, rehabilitation and terminal care in communities throughout the Northwest/Alaska region that are geographically removed from cancer centers, and (2) to implement a communication network for cancer nurses in this region so that they may consult with one another regarding the nursing management of problems faced by the cancer patient and involved family, and incorporate into their knowledge and practice new findings related to cancer, cancer treatment and cancer nursing research. The objective of the methodology is to provide the nurse participants with selected learning activities and clinical experiences, implemented by a traveling core faculty.

The evaluation component utilizes both cognitive, affective and behavioral instruments, pre- and post-program, as well as at six months and twelve months post-program. Analyses of preliminary data are being carried out.

144. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Harmon, R. G., University of Washington, School of Nursing, Community Health Care Systems, *Seattle, Washington,* 98105, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course in prevention, focusing on cancer, for nurse practitioners or physician's assistants.

D. BROAD PROGRAMS IN CLINICAL CANCER EDUCATION

145. PROGRAM OF THE INTERNATIONAL UNION AGAINST CANCER

Delafresnaye, J. F., Metcalf, D., van der Werf Messing, B., Junqueira, A. C., Flamant, R., Union Internationale Contre le Cancer, *3 Rue du Conseil General, c/o Dr. J.F.D. Delafresnaye, 1205 Geneva, Switzerland*

The activities described in this grant application correspond to two Programmes of the UICC:

The Experimental Oncology Programme comprises Review Study Groups on the Biology of Human Cancer, to study in sequence each form of human cancer and to report thereon in widely distributed publications, and Training Courses in Cancer Research, to provide an overview of research to young graduates about to embark on a research career.

The Clinical Oncology Programme comprises the TNM Classification of Malignant Tumors, Multidisciplinary Project on Breast Cancer, and Controlled Therapeutic Trials.

146. CANCER EDUCATION GRANT

Brascho, D. J., University of Alabama in Birmingham, School of Medicine, Dept. of Radiation Oncology, *1919 7th Ave. S., Birmingham, Alabama,* 35233, United States of America

The clinical cancer education program at the University of Alabama in Birmingham is a multidisciplinary educational program for medical students, house staff, postgraduate physicians and paramedical personnel. Key faculty members of the medical school and members of the Comprehensive Cancer Center are involved in a well-organized educational program which stresses the interdisciplinary approach to cancer treatment. Broad evaluation of the programs has been under way, and efforts are now being made to expand the exposure to medical students in their clinical years and in their sophomore year of medical school. The program supports clinical associates and clinical assistants in the subspecialty of oncology. A well-equipped library with audiovisual materials, as well as publications and medical textbooks, is available for the faculty and trainees. A strong program for postgraduate continuing education has been developed through the MIST (Medical Information Service via Telephone) Program, and 'Practical Reviews in Cancer Management', an audio-cassette learning program.

147. CLINICAL CANCER EDUCATION PROGRAM

Westbrook, K. C., University of Arkansas, Medical Sciences Campus, School of Medicine, Dept. of Surgery, *4301 W. Markham St., Little Rock, Arkansas,* 72201, United States of America

The purpose of the UAMS Cancer Education Program is to improve the care of cancer patients through education of health care professionals. The program will include medical students as well as practicing physicians and paramedical personnel. Medical school activities will provide students with oncology knowledge, technical skills, and an optimistic attitude towards the cancer problem. Methodology will include Clinical Correlation Conferences, Multidisciplinary Tumor Boards, a Cancer Teaching Laboratory, and oncology electives. House staff education will produce specialists able to render comprehensive care for most cancer problems. A Clinical Associate Program will enable selected individuals to provide highly specialized integrated cancer management. Continuing Education will disseminate recent advances in cancer diagnosis and treatment to practicing health care professionals. Methodology will include Tumor Seminars, Arkansas/Oklahoma Cancer Forum, Baptist Medical Center Tumor Conferences, and Visiting Consultants. Drug preparation will be conducted. Computer assisted learning will be used in the training program. Thus, the overall program utilizes both old and new techniques to educate health care professionals in the current diagnosis and treatment of cancer.

148. SUPPORT FOR CLINICAL CANCER EDUCATION

Mendelsohn, J., Anderson, H., Citrin, D., Green, M. R., Goulian, M., Herbst, K., Howell, S. B., Ranney, H. M., Rapaport, S. I., Royston, I., Wohl, H., Barone, R., University of California, San Diego Campus, School of Medicine, Dept. of Medicine, *P.O. Box 109, La Jolla, California,* 92093, United States of America

An interdisciplinary training program in clinical oncology has been established at the University of California at San Diego School of Medicine. The objective is to provide medical students and physicians with training in oncology, covering clinical practice as well as aspects of biology and biochemistry relevant to the pathogenesis, treatment, and prevention of cancer. During the past four years the oncology program at this institution has been greatly strenghtened. Eighteen new faculty members were recruited with expertise in oncology. Multidisciplinary training programs in clinical oncology and cancer research have been initiated. A new interdisciplinary oncology clinic opened at University Hospital in September 1977, and on April 1, 1978, the UCSD Cancer Center was formally recognized and funded by the National Cancer Institute. There has been a corresponding growth in the educational program for medical students, house staff and Clinical Associates. The clinical oncology divisions of the Departments of Medicine, Surgery, Pediatrics, Radiology and Reproductive Medicine have established an interdisciplinary training program for Clinical Associates which is supported by the Clinical Cancer Education Grant. In the four years of its existence, this program has provided training for 17 physicians interested in this subspecialty. Some of these individuals are pursuing careers in academic medicine and others have entered or will shortly enter private practice with subspecialty certification in oncology. Each year four Clinical Assistants, appointed from among a large number of applicants in Medical School, have pursued research interests in depth under the close supervision of a faculty member. An oncology concentration area has been developed for medical students. New clinical teaching conferences for students and physician trainees have been developed, with a strong emphasis on the planning and evaluation of clinical treatment protocols. Through the Cancer Center, the institution has made a concert-

ed effort to develop innovative interdisciplinary treatment protocols. In summary, the University of California San Diego School of Medicine provides an optimal setting for the training of specialists in clinical oncology. The education program combines experience in active clinical subspecialty services with participation in strong clinical and basic research programs.

BIBLIOGRAPHIC REFERENCES: Taetle, R., Lane, T.A., and Mendelsohn, J. Drug Induced Agranulocytosis: Evidence for Humoral Suppression of Granulopoiesis and a Cross-reacting Lymphocyte Antigen. Blood 54:501-512, August 1979.

149. CLINICAL CANCER EDUCATION PROGRAM

Friedman, M. A., University of California, San Francisco Campus, School of Medicine, Dept. of Medicine, *551 Parnassus Ave., San Francisco, California*, 94122, United States of America

We are engaged in a multidisciplinary program in cancer education for physicians, nurses, pharmacists, tumor registrars, and the lay community. To accomplish this broad goal we are utilizing the formal curriculum of the postgraduate educational schools within our University as well as ad hoc programs. We utilize practical experience (in- and out-patients), didactic lectures, audiovisual equipment, and written materials. Evaluation of programs is through written critiques, National Board Certification Performance, and testing.

150. CLINICAL CANCER EDUCATION GRANT

Lukes, R. J., University of Southern California, School of Medicine, Dept. of Pathology, *2025 Zonal Ave., Los Angeles, California*, 90033, United States of America

The objective of this program is the development of an integrated comprehensive Clinical Cancer Education Program for undergraduate medical students, graduate interns, resident physicians, and community physicians with the goal of improving cancer education at all levels, not simply for those in the subspecialties of oncology. This program will reorganize and expand the already existent teaching activity in oncology at the LAC-USC Medical Center and attempt to integrate the traditionally fragmented nature of cancer teaching by oncology subspecialties through the guidance of an Executive Committee and the initiation of a multidisciplinary teaching program designed for all Oncology Units.

151. CLINICAL CANCER EDUCATION PROGRAM

Godfrey, T. E., Loma Linda University, School of Medicine, Dept. of Surgery, *Loma Linda, California*, 92350, United States of America

The purpose of the Clinical Cancer Education Program at Loma Linda University is to give undergraduates particularly, but not exclusively, in the School of Medicine an overall view of the disease, cancer, with special emphasis on incidence, prevention when possible, the multidisciplinary approach necessary for early diagnosis, and the team concept of management in all stages of cancer, whether early or late.

Not to be omitted or overlooked is the importance of psychological support and rehabilitation in the complete care of the cancer patient and his family.

This overall view is intended to lay the foundation on which each student can build during his later professional life. Graduate education in cancer should be - and is - a re-emphasis of the same principles focused on a specific field of interest.

Aids to accomplish such objectives include an increase in the staff in Oncology; more efficient use of tumor registry material utilizing computer technology; preparation of videotapes; involvement in community health clinics; utilization of improved technology for diagnosis of cancer (endoscopy, ultrasound, etc.) and for teaching about cancer (TV microscope attachments, teaching attachments for endoscopy, etc.).

152. CLINICAL CANCER EDUCATION PROGRAM

Rosenberg, S. A., Dorfman, R. F., Ballon, S. C., Donaldson, S. S., Stanford University, School of Medicine, Dept. of Medicine, *300 Pasteur Dr., Stanford, California*, 94305, United States of America

A program of clinical cancer education is described, directed to medical students, oncology nurses, graduate physicians in specialty programs, postgraduate physicians in practice and school officials of children and adolescents with cancer. The program integrates pathology, radiation therapy, medical oncology, pediatric oncology, surgery, gynecologic oncology, oncology nursing, and diagnostic disciplines in the educational process. Multidisciplinary clinics, conferences, data systems and evaluation efforts are described.

153. NCOG EDUCATION/DEMONSTRATION PROGRAM FOR COMMUNITY HEALTH PROVIDERS

Carter, S. K., Gottfried, D. F., Jackson, P., Sibary, K., Hannigan, J. F., Adams, F., Northern California Cancer Program Inc., Northern California Cancer Program, *770 Welch Rd., Suite 190, Palo Alto, California*, 94304, United States of America

The overall goal of the NCOG Community Outreach Program is to assure the optimal diagnostic evaluation, staging, treatment, and rehabilitation of cancer patients in the participating Northern California Cancer Program regions. Two major programmatic thrusts are being developed toward this goal. First, multidisciplinary clinical committees were formed in each of the five participating regions: Greater Fresno, Sacramento, Greater Reno, the South Bay and the East Bay. Secondly, a broad range of professional education programs are being developed for physicians, nurses, pharmacists, and other medical professionals to complement the protocols and increase the individual's awareness of the most current diagostic treatment and rehabilitation strategies and techniques.

Professional education programs developed and implemented during the -01 year of the Outreach grant include: a symposium on genitourinary cancer, a discussion of primary surgery vs. primary radiation therapy for early stage breast cancer, a symposium on diagnosis, treatment and management of primary and metastatic brain tumors, and a discussion of the classification and grading of tumors of the testes and prostate.

154. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Block, J. B., Los Angeles County Harbor General Hospital, *1200 N. State St., Los Angeles, California*, 90033, United States of America

Development, implementation, and evaluation of a course in prevention, focusing on cancer, for undergraduate medical students and/or residents.

155. CLINICAL CANCER EDUCATION PROGRAM

White, J. E., Hunter, C. P., Drummond, M., Chisholm, R., Karapati Untiveros, Khan, T., Mohla, S., Goldson, A. L., Howard University, School of Medicine, Dept. of Oncology, *2400 6th St. N.W., Washington, District of Columbia*, 20001, United States of America

The Clinical Cancer Education Program of the Department of Oncology, College of Medicine, is a multidisciplinary educational program dedicated to and directed towards educational activities intended to 1) reduce the incidence, morbidity and mortality of cancer by educating the various health care practitioners in the basic tools required for the prevention, detection, diagnosis, and treatment of cancer - this includes undergraduate medical students, postgraduate medical doctors, nurses, other allied health professionals, and practicing or community physicans; 2) develop a program of educational reinforcement for health care practitioners while educating cancer patients and their families; and 3) continue to foster the growth and development of cancer-related activities at Howard University and in the community through the educational process.

These activities are accomplished through various seminars, conferences, community programs, lectures and health fairs, as well as training programs for students, postgraduate physicians, and paraprofessional personnel.

156. CLINICAL CANCER EDUCATION PROGRAM

Potter, J. F., Sinks, L. F., Schein, P. S., Delgado, G., Holt, R. W., Broering, N. C., Bagdoyan, H., Stesis, K. R., Dritschilo, A., Georgetown University, School of Medicine, Dept. of Surgical Oncology, *3800 Reservoir Rd. N.W., Washington, District of Columbia*, 20007, United States of America

This Grant supports, in part, cancer education at Georgetown University for medical students, residents, Clinical Associates, and postgraduate personnel at various levels. The Library component provides special assistance to the education of the above named personnel, with special emphasis on the field of cancer.

The emphasis is on the clinical aspects of cancer education, but there is some benefit derived from the basic science studies, especially by virtue of the special library program.

157. CLINICAL CANCER EDUCATION PROGRAM

Mansell, P. W., University of Miami, School of Medicine, Dept. of Oncology, *1400 N.W. 10th Ave., Box 520875, Coral Gables, Florida*, 33152, United States of America

A statewide multidisciplinary cancer education program is decribed, affecting undergraduates, graduates, professionals, nurses, school children and the general public. The program is cross-cultural and is premised on the belief that education is prevention.

Educational resources from the Comprehensive Cancer Center for State of Florida, all departments of the three Florida medical schools, and many local hospitals and institutions are used. Ties with non-medical and non-scientific state and local departments and institutions have been built up to provide a truly multifaceted statewide program.

Funding is requested to continue the education of medical students, post-residency fellows and professionals in the on-site cancer education program. Other programs are funded through a grant to the Division of Cancer Control and Rehabilitation and the Cancer Information Service contract.

158. CLINCIAL CANCER EDUCATION PROGRAM (GENERAL)

Huguley, C. M., Moore, M. R., Benigno, B., Ragab, A. H., Mathews, W., Emory University, School of Medicine, Dept. of Medicine, *1364 Clifton Rd. N.E., Atlanta, Georgia*, 30322, United States of America

OBJECTIVE: To continue to expand and to improve an established Interdisciplinary Clinical Cancer Education Program.

SPECIFIC AIMS: 1. To coordinate all cancer-related teaching during the basic science years to insure an integrated core cancer curriculum for all medical students. 2. To expand interdisciplinary teaching during the clinical clerkship and house staff years through improved tumor conferences and increasing interdisciplinary participation in the care of each cancer patients. 3. To provide the opportunity for specialized training in Oncology for students (Clinical Assistants) and post-residency subspecialists (Clinical Associates). 4. To operate an Interdepartmental Oncology Ward at Grady Hospital as a demonstration center for improved cancer care to medical students, house staff, postgraduate physicians, nurses, physicians' associates and social workers. 5. To cooperate in the continuing strengthening of oncology training in the Allied Health Professions; specifically, Nursing, Social Work, Physicians' Associates, Physical Therapy and Rehabilitation, Radiation therapy technicians, Enterostomists, and Mammography. 6. To provide special lectureships in Oncology by national authorities for all elements of the Medical Center and for practicing physicians. 7. To provide teaching aids for self-study use.

159. SOUTHEASTERN CANCER STUDY GROUP

Keller, J. W., Huguley, C. M., Vogler, W. R., Winton, E. F., Moore, M. R., Heffner, L. T., York, R. M., Corley, C. C., Nixon, D., Emory University, School of Medicine, Dept. of Medicine, *1364 Clifton Rd. N.E., Atlanta, Georgia*, 30322, United States of America

OBJECTIVES: To participate in the initiation, development and conduct of clinical research studies of the Southeastern Group and to foster acceptance and cooperation of surgical, medical and radiation oncologists in multidisciplinary trials. To design innovative, scientifically sound, clinical research studies which will improve quality of management of hematologic and solid tumor malignancies. To assist in defining and refining staging, management and evaluation procedures to accurately, uniformly and adequately identify and analyze patient populations. To place sufficient numbers of appropriate, well-studied patients on Group studies so that the answers to questions posed will be promptly available and scientifically sound. To report well-documented results to the profession with accuracy and dispatch. To play a major role in committee leadership, participation in committee work and to take an active part in the design of and responsibility for carrying out of Group protocols. To conduct ancillary and pilot studies which explore and develop new methods of diagnosis, treatment and evaluation which are consonant with the long-term goals of the Group. To provide indoctrination, education, training and practical experience in cancer clinical trials to fellows, house staff, medical students, nurses, physicians' assistants and other allied health personnel. To provide a service of disseminating information on current progress in clinical cancer research and to help bridge the gap between medical centers and community physicians.

160. CLINICAL CANCER EDUCATION PROGRAM

Oishi, N., University of Hawaii System, Manoa Campus, John A. Burns School of Medicine, Dept. of Medicine, *2444 Dole St., Pacific Biomedical Res. Ctr., Honolulu, Hawaii*, 96822, United States of America

The University of Hawaii Clinical Cancer Education Program emphasizes interdisciplinary and multidisciplinary team effort in cancer care.

The Interdisciplinary Team Course was conducted during two eight-week periods. The first eight-week course showed that the experience was enthusiastically endorsed by the students finishing the eight-week course. Because of elective constraints, the medical students were on a 4-week assignment.

The Multidisciplinary Course has been approved by the Curriculum Committee and will be offered to the fourth-year medical students during the school year commencing July 1, 1980. This course attempts to continue structured formal lectures with clerkships in the development of skills in the diagnosis and management of cancer and related problems.

The Clinical Associate Program continues to emphasize clinical training in an in- and outpatient setting. Dedicated time has been given for training in pathology and radiation oncology. The Associates will continue to coordinate cancer-related meetings and participate and develop a leadership role in the interdisciplinary and multidisciplinary activities of undergraduate and graduate training.

BIBLIOGRAPHIC REFERENCES: L.G. Feun, A. Drelichman, A. Singhakowinta, V. Vaitkevicius, N. Oishi. Phase II study of Nafoxidine in the therapy for advanced renal carcinoma, Cancer Treatment Reports, 63 (1): 149-150, January 1979.

161. CLINICAL CANCER EDUCATION PROGRAM

DasGupta, T. K., University of Illinois, Medical Center at Chicago, Abraham Lincoln School of Medicine, Dept. of Surgery, *1853 W. Polk St., Box 6998, Chicago, Illinois*, 60680, United States of America

This cancer education activity is directed at students at the undergraduate level and at graduate and postgraduate levels. Particular emphasis is placed on clinical competence at the undergraduate level and both clinical and research orientation at the graduate level. Our graduate program consists of specialist education in oncology in the disciplines of Surgery, Medicine, Pediatrics, Radiation Therapy, Pathology, Urology and Obstetrics and Gynecology. The major accent is on evaluation of this program both at the undergraduate and at the graduate level. The newer problem solving approach is being used to assess the impact of the program. Furthermore, the end product is being judged from their career choices. A core curriculum in cancer for all undergraduate students has been developed which has been accepted by the curriculum committee. This core curriculum is being incorporated in the routine curriculum of the Abraham Lincoln School of Medicine. Our main objective in the current fiscal year is to initiate the curriculum and further develop the clinical associate program in Medical and Pediatric Oncology.

162. CLINICAL CANCER EDUCATION PROGRAM

Merrill, J. M., Williams, R. M., Berlin, N. I., Northwestern University, Chicago Campus, School of Medicine, Dept. of Medicine, *303 E. Chicago Ave., Chicago, Illinois*, 60611, United States of America

The Cancer Education Program reaches all levels of the Northwestern University Medical School/Cancer Center-Northwestern Memorial Hospital/McGaw Medical Center medical community. The program impacts upon physicians at all levels of their training, and upon practicing physicians in the course of their daily activities and continuing medical education pursuits. The program is multidisciplinary at the level of design and direction and in practice.

BIBLIOGRAPHIC REFERENCES: Bianco, A., Taylor, S., Reich, S., Merrill, J., DeWys, W., Combination Chemothera-

py in Head and Neck Squamous Cancer, Cancer Treatment Reports, 63, 158, 1/79. Kisielius, T., Bianco, A., Merrill, J., Taylor, S., and DeWys, W., Bleomycin in Combination Chemotherapy of Metastatic Wilms Tumor, Medical and Pediatric Oncology, 6, 11, 1979.

163. CLINICAL CANCER EDUCATION PROGRAM

Caplan, R. M., University of Iowa, School of Medicine, Dept. of Dermatology & Syphilology, *Jessup Hall, Iowa City, Iowa*, 52240, United States of America

This program provides a specially developed interdisciplinary effort in cancer education for health science students at a variety of training levels that are served by the University of Iowa College of Medicine. It seeks to help to prepare those students to perform in the most enlightened and effective manner possible to prevent, detect and treat cancer in our population.

BIBLIOGRAPHIC REFERENCES: Caplan, R., and members of the Core Curriculum Committee, American Academy of Dermatology: Core Curriculum for Dermatology. Journal of the American Academy of Dermatology, Volume 1, No. 2, August, 1979. Crist, L., Caplan, R: Category 1 Continuing Medical Education - What Does It Mean? Journal of the Iowa Medical Society, January, 1980.

164. CANCER EDUCATION PROGRAM - MID-AMERICA CANCER CENTER

Jewell, W. R., University of Kansas, Medical Center, School of Medicine, Dept. of Surgery, *39th St. & Rainbow Blvd., Kansas City, Kansas*, 66103, United States of America

Program provides for expansion of interdisciplinary cancer education in research and treatment areas at the School of Medicine and in the medical community. Increase in oncology nursing education; support of fellows in oncology; promotion of cancer research among medical students; special education programs in cancer for faculty and staff, and annual cancer symposium in postgraduate medical education; touring team presentations, one to physicians and one to nurses; and a continuing review and evaluation of cancer content in the medical school curriculum are some of the means of accomplishing the goals.

165. SOUTHWEST ONCOLOGY GROUP STUDIES

Hoogstraten, B., Stephens, R., Amare, M., Belt, B., Haas, C., Hartman, G., Hermreck, A., Jewell, W., Lansky, S., Mansfield, C., Mantz, F., Fabian, C., University of Kansas, Medical Center, School of Medicine, Dept. of Medicine, *39th St. & Rainbow Blvd., Kansas City, Kansas*, 66103, United States of America

SPECIFIC AIMS: 1. Continued participation in the cooperative studies undertaken by the Southwest Oncology Group in the treatment of malignancies in man. 2. Contributing to the total Group effort as part of its continuing self-improvement. 3. Training of future oncologists.

166. CLINICAL CANCER EDUCATION PROGRAM

DeSimone, P. A., Blues, A. G., Nelson, M. O., Barnes, E., University of Kentucky, School of Medicine, Dept. of Surgery, *Limestone & Euclid, Lexington, Kentucky*, 40506, United States of America

The goal of this project is to improve the quality of cancer education and ultimately cancer care by developing new and expanding existing comprehensive cancer education programs for the University of Kentucky and Lexington VA Medical Centers. Emphasis is placed on the multidisciplinary approach to a core curriculum. A topic is discussed from a surgical, medical and radiation medicine point of view. The positive effects of early diagnosis, treatment and rehabilitation are stressed. A secondary goal is to try to change the attitude towards cancer. This project offers advanced clinical associateships in the departments of medicine, pathology, surgery, pediatrics, obstetrics-gynecology and radiation medicine.

167. CLINICAL CANCER EDUCATION PROGRAM

Moore, C., Bertolone, S. J., Rand, M. A., Mann, P. A., University of Louisville, School of Medicine, Dept. of Surgery, *101 W. Chestnut, Louisville, Kentucky*, 40202, United States of America

The ultimate purpose of our Clinical Cancer Education Program is to bring about and maintain the highest level of care in the cancer patient, by ensuring that medical students, residents, fellows, nurses, and practitioners acquire and maintain a basic knowledge and understanding of cancer including prevention, detection, treatment, and rehabilitation.

In order to meet our objectives, we have the following specific aims: 1) providing clinical cancer training experiences for 15 clinical assistants and 4 clinical associates; 2) providing high-quality continuing cancer education programs for our faculty and area health professionals through a formal oncology lecture series, 3) expanding our educational cancer outreach programs; 4) improving the coordination of our educational program and the School of Dentistry's, 5) evaluating the core curriculum in the School of Medicine as to its adequacy in light of our objectives, 6) developing and implementing a cancer Computer-Assisted Self-Evaluation (CASE) program; 7) developing a nursing oncology program for undergraduates, master's degree candidates, and practitioners, 8) developing better, practical mechanisms for evaluating cancer education programs; and 9) assisting the University Hospital Cancer Committee in the development of a patient care manual.

168. CLINICAL CANCER EDUCATION PROGRAM

Beazley, R. M., Sullivan, J. W., Bickers, J. N., Torres, J., Ducos, R., Louisiana State University, Medical Center, School of Medicine, Dept. of Surgery, *1542 Tulane Ave., New Orleans, Louisiana*, 70112, United States of America

It is planned, under the 1979-80 segment of this Cancer Education Grant, to continue our Clinical Associates Program in Pediatric Oncology and to obtain a Medical Oncology clinical associate. In addition the Clinical Assistants Program will be continued during the summer. Dr. Irving Selikoff spoke at the LSU Medical Center on the 'Scientific Basis for Control of Environmental Cancer' on December 5, 1978. The planned consultants for the next few months include Dr. John Costanzi and Dr. Jaffe. Additionally, a one day cancer seminar entitled 'New Dimensions in Breast Cancer' is planned for May 5th. Dr. Jose Torres will continue running the Oncologic Gynecology course for the junior students. The proposed pharmacology instruction manual is nearly complete and will be utilized early in the spring of 1979. The cancer teaching audit for the freshmen and sophmore years have been completed and the information obtained relayed to the Curriculum Committee with proposed changes.

169. CLINICAL CANCER EDUCATION PROGRAM

Williams, D. M., Louisiana State University, Medical Center, School of Medicine, Dept. of Medicine, *1501 Kingshighway, Box 33932, Shreveport, Louisiana*, 71130, United States of America

Louisiana State University Medical Center in Shreveport is rapidly emerging as a cancer treatment and education resource for a large geographic area which previously had no effective educational program or referral center. The purposes of this proposed cancer education program are 1) to provide amplification of present educational programs at all levels, including undergraduate, graduate and postgraduate medical education, and 2) to develop new educational programs at all levels. Efforts will be made to develop an expanded educational program with the University so that students will be able to participate in patient care, clinical investigation and/or cancer-related bench research. Clinical associates will learn about the needs and care of the individual patient as well as the role of cooperative studies. There will be emphasis on locally produced television and audiovisual aids as well as increased efforts to communicate with practicing physician's home communities. Assessment of effectiveness of these programs will be made by examination of student scores in standardized tests before and after institution of the program as well as by use of attitudinal surveys carried out among students, house officers, and practicing physicians.

170. CLINICAL CANCER EDUCATION PROGRAM

Krementz, E. T., Tulane University of Louisiana, School of Medicine, Dept. of Surgery, *1430 Tulane Ave., New Orleans, Louisiana*, 70112, United States of America

This grant is to supplement and enrich the basic cancer teaching program for medical students, postgraduate trainees, and paramedical personnel at the Tulane Medical Center and affiliated hospitals. Major efforts to introduce interdisciplinary approaches through tumor conferences and seminars will be expanded. Innovations include a teaching nurse oncologist practitioner, additional oncology courses for junior and senior medical students, more teaching in oncology for freshmen and soph-

omore students, and expansion of library facilities and oncology materials for use by all medical personnel. Teaching programs in the six major clinical departments will be enhanced by support of key personnel. A program for clinical cancer associates will be initiated and the programs for clinical assistants will be expanded. An annual survey of graduates will be conducted to determine the impact of the program. A professional education consultant will be utilized to improve faculty teaching. Teaching material pertinent to cancer education and/or developed by the clinical faculty will be distributed or made available to students and residents. Elective courses correlating basic and clinical cancer research will be offered.

171. CLINICAL CANCER EDUCATION PROGRAM

Lenhard, R. E., Trump, D. L., Coffey, D. S., Kaizer, H., Order, S. E., Rosenshein, N. B., Eggleston, J. C., Bertram, J. H., Brereton, H. D., Fetting, J. H., Graham, M. L., Grumbine, F. C., Johns Hopkins University, School of Medicine, Dept. of Medicine, *725 N. Wolfe St., Baltimore, Maryland,* 21205, United States of America

This application requests support for continued and expanded activities in cancer education at The Johns Hopkins Medical Institutions. Direction for the program is provided by a Director of Clinical Cancer Education, an Associate Director, and a Clinical Cancer Education Committee. The Committee is responsible for maintaining an overview of the cancer education programs throughout the medical institutions and for providing input into curriculum decisions which will give balance and coordination to the education of medical students, house staff, nurses and practicing physicians. An emphasis upon multidisciplinary education is maintained with programs which relate basic sciences to clinical programs and foster activities across clinical disciplines.

The Clinical Associate program is a key function of this grant as well-trained physicians with a dedication to oncology are utilized to carry educational programs to the large number of students, nurses and house staff under the direction of the faculty. In addition, the Clinical Associates are expected to be an important product of the education program as they will carry their education into the community and to other universities or centers after leaving the program. Evaluation of the program will be carried out under the direction of the Clinical Cancer Education Committee and will examine clinical and basic science educational materials and students' exposure and attitudes toward cancer and their ability to answer factual questions.

172. CANCER CONTROL DEVELOPMENT AND SUPPORT GRANT

Waalkes, T. P., Johns Hopkins University, School of Medicine, Dept. of Oncology, *725 N. Wolfe St., Baltimore, Maryland,* 21205, United States of America

The purpose of this proposal is to request continuing support for the further establishemnt of a Cancer Control Program at the The Johns Hopkins Comprehensive Cancer Center. Funds are requested for core personnel who carry responsibility for program planning and implementation; professional education activities that will enhance program aims; demonstration projects which have potential for extension to community utilization; and acquisition of data that are essential for planning and evaluation.

The primary objective of The Johns Hopkins Oncology Center's Cancer Control Program is to develop a Cancer Network throughout the state of Maryland which will be responsive to both individual community and/or regional and statewide needs. The approach is twofold: (1) to involve key regional hospitals which serve as referral centers within their area of the state, and (2) to assist the communities or regions associated with these hospitals in the development of meaningful, comprehensive cancer control programs. The latter is to be a cooperative activity involving the local hospital, key community individuals and organizations, and The Johns Hopkins Oncology Center. Eventual statewide coverage is the desired goal.

173. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Trump, B. F., University of Maryland, Baltimore Professional Schools, School of Medicine, Dept. of Pathology, *655 W. Baltimore St., Baltimore, Maryland,* 21201, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course in prevention, focusing on cancer, for undergraduate medical students and/or residents.

174. A TEACHING AND CONSULTATION SERVICE IN MEDICAL ONCOLOGY

Wiernik, P. H., Esterhay, R. J., Aisner, J., Schiffer, C. A., Schimpff, S. C., Van Echo, D. A., Kaplan, R. M., Leavitt, R. D., U.S. Dept. of Health & Human Services, Public Health Service, National Inst. of Health, National Cancer Inst., Clinical Oncology Branch, *Baltimore, Maryland,* 21201, United States of America

In order to improve the clinical approach to various cancers, dissemination of information concerning the latest techniques, diagnosis and therapy is of paramount importance. By providing exposure and training of potential physicians early in the course of their education, for instance during their student or house officer years, such information will be brought to the community in an orderly fashion and will preclude the formation of prejudicial opinions about the treatment of malignancies. With the provision of a consultative service to the various cooperating units, we have the opportunity to educate the patients' physicians regarding modern techniques of management of the various neoplastic diseases. These consultative and teaching functions also elevate the level of care available to the patient with cancer in the metropolitan area.

175. CLINICAL CANCER EDUCATION PROGRAM

Mozden, P. J., Elkort, R. J., McCaffrey, R., Deckers, P. J., Spiers, A. S., Weintraub, L. R., Krikorian, J., Feller, J. H., Boston University, School of Medicine, Dept. of Surgery, *80 E. Concord St., Boston, Massachusetts,* 02215, United States of America

Boston University Medical Center has developed a focus on cancer teaching and education that has resulted in the evolution of a cancer program that has visibility, coordination, and is highly regarded by faculty, administration and students. The program aims to develop activities in cancer education that are well beyond what is usually noted within the traditional medical school setting. The oncology faculty has developed a series of goals and objectives which help guide the program. To help reach these objectives, the program has developed a broad range of multidisciplinary resources, involving medical and surgical oncology, radiation therapy, hematology, pathology, pharmacology, nuclear medicine, biochemistry, psychiatry and endocrinology. Increasingly, social workers and a highly motivated nursing department have become involved, especially in areas of psychosocial support and rehabilitation. The program is intended to impact on medical students, residents, postgraduate clinical associates, community physicians, nurses and paramedical personnel at both the Medical Center and community levels. Separate and distinct sections of oncology have evolved in medicine, surgery and radiation medicine, with full time faculty in each. The important interrelationship between basic science and clinical management is stressed. A well-organized and successful community outreach program permits students to observe cancer problems as they exist in the community setting. A wide selection of basic and clinical electives in cancer have been developed for students from the 1st to the 4th year level. Total care of the cancer patient is demonstrated as an integrated concept. A special 30 hour curriculum on cancer is given to the entire 2nd year class stressing cancer epidemiology, carcinogenesis and early detection, using 'tumor models' to transfer clinical concepts of cancer management, and utilizing some 30 faculty members from 12 departments. Students are now regularly 'assigned' to the clinical cancer services and residents in both medicine and surgery have asigned rotations to medical and surgical oncology.

176. CLINICAL CANCER EDUCATION GRANT

Krant, M. J., University of Massachusetts, Medical School at Worcester, School of Medicine, Dept. of Medicine, *419 Belmont St., Worcester, Massachusetts,* 01604, United States of America

The University of Massachusetts School of Medicine proposes to enhance Cancer Education through its Office of Cancer Programs. The Cancer Education Coordinator in that Office will identify and support an Associate Cancer Coordinator in the three Community Hospitals affiliated with the Medical School. The latter will be responsible for the clinical education of third and fourth year students, through a coordinated Univer-

sity function. Associate Coordinators for Basic Science and Behavioral Humanistic Education, and Social and Community Resources, will also be appointed. These six (6) Associate Coordinators, working closely with the Coordinator, will be responsible for a broad Program development including the establishment of new courses for second and third year students, new electives in oncologic disciplines in the fourth year, supporting the clinical and pedagogic education of Clinical Associates, creating new dimensions in Continuing Medical Education, and promoting the Visiting Professor Program. In addition, a special program in The Behavioral Aspects of Cancer will be effected and a manual created. The manual will be readily available for national distribution. Funds for 2 workshops are requested for a study of behavioral, ethical, humanistic, and social issues in cancer, with the Cancer Teaching Center.

177. CLINICAL CANCER EDUCATION PROGRAM

Nathanson, L., Tufts University, Boston Campus, School of Medicine, Dept. of Medicine, *136 Harrison Ave., Boston, Massachusetts*, 02111, United States of America

The Tufts Cancer Education Program has achieved significant success in its first funding period primarily in the area of strengthening the input of the oncologic sciences in undergraduate teaching at Tufts University School of Medicine. Objectives including 1) an increased understanding of the basic scientific mechanisms of cancer, 2) appreciation of interdisciplinary diagnostic and therapeutic procedures in cancer care, 3) discussion of controversies that exist in the understanding of the cause and management of cancer patients, and 4) emphasis on the psychosocial support of cancer patient have all been achieved in significant degree. The methods utilized include the development of new courses in Cell Biology and Biochemistry of Disease, and reorganization and supplementation of oncology material in the pathology, microbiology, and second year systems programs.

In the renewal period the Clinical Cancer Education Program will be involved in sweeping new programs at Tufts which include: 1) the new 'interface' curriculum in health sciences teaching, 2) the new Tufts University School of Veterinary Medicine, 3) the new Tufts Institute of Nutritional Research, and 4) a new Tufts Cancer Research Center sponsored program in epidemiology and statistics.

Three major new courses are planned: 1) 'Understanding Cancer' will familiarize college students at Tufts with some of the social and biological problems of oncology, 2) 'Comparative Neoplasia' will emphasize the cross-comparisons between spontaneously induced neoplastic diseases in many different animals, some of which are exposed to the same physical environmental carcinogens to which man is exposed, 3) 'Fundamental Basis of Clinical Practice' will bring fourth year medical students back to the Medical School for a practical review of the basic science principles underlying prevention, diagnosis, and treatment of malignant disease in humans.

In the renewal period, increasing emphasis will be placed on the use of Clinical Associates in the implementation of these programs. In addition, new audiovisual modules in breast cancer will be developed to make up for inadequacies found as a result of an extensive review of existing materials.

178. CLINICAL CANCER EDUCATION PROGRAM

Frei, E., Canellos, G. P., Nathan, D. G., Mayer, R. J., Wilson, R. E., Schnipper, L. E., Knapp, R. C., Hellman, S., Bunn, H. F., Sidney Farber Cancer Center Inc., *44 Binney St., Boston, Massachusetts*, 02115, United States of America

The objective of this consortium program is to provide a unified, coordinated Clinical Cancer Education Program in Gynecologic, Medical, Pediatric, Radiation and Surgical Oncology. The member institutions include the Sidney Farber Cancer Institute, the Beth Israel Hospital, the Boston Hospital for Women, the Children's Hospital Medical Center, the Joint Center for Radiation Therapy and the Peter Bent Brigham Hospital, all Harvard-affiliated teaching facilities in the Longwood Avenue area. Clinical cancer teaching will be offered at the medical student, intern and resident, and Clinical Associate levels, with emphasis being given to a multi-disciplinary integration of the component specialty disciplines. The Program will be conducted under the close supervision of Senior Staff, will stress patient care and clinical investigation, and will offer an opportunity for interaction among clinical, psychosocial, and basic science divisions. Structured teaching programs for students, house staff and Clinical Associates are provided.

179. COMPREHENSIVE CANCER CENTER SUPPORT

Frei, E., Sidney Farber Cancer Center Inc., *44 Binney St., Boston, Massachusetts*, 02115, United States of America

Aims and purposes of the Center are as follows: 1) to fulfill its role as a Regional Cancer Center as well as its role as the primary cancer center in the Harvard Medical School area; 2) to provide a source of expertise in cancer chemotherapy, supportive care, cancer immunotherapy, etc.; 3) in association with affiliating institutions, to provide total care on an interdisciplinary basis to patients with cancer; 4) to foster and develop a new research program in basic science and clinical investigation as they relate to cancer, including prevention, diagnosis and treatment; 5) to add to the total oncology resources of the medical community in terms of available staff and available facilities; 6) to participate in teaching medical students, house staff and fellows, and pre- and post-doctoral candidates, and in the continuing education of practicing physicians; 7) to develop programs for the assistance of community hospitals and all practicing physicians in the care of their patients with cancer, and to develop programs of continuing lay as well as professional education.

BIBLIOGRAPHIC REFERENCES: A Clinical-Pharmacological Evaluation of Hepatic Arterial Infusions of 5-Fluoro-2'-Deoxyuridine and 5-Fluorouracil W. D. Ensminger, A. Rosowsky, V. Raso, D. C. Levin, M. Glode, S. Come, G. Steele, and E. Frei, III Cancer Res., 38, 3784-3792 (1978). A Phase I Study of High Doses of Aminopterin with Leucovorin Rescue in Patients with Advanced Metastatic Tumors L. M. Glode, S. W. Pitman, W. D. Ensminger, A. Rosowsky, N. Papathanasopoulos, and E. Frei, III Cancer Res., 39, 3707-3714 (1979).

180. CLINICAL CANCER EDUCATION PROGRAM

Heyn, R. M., Bull, F. E., LoBuglio, A. F., Morley, G. W., Hiss, R. G., University of Michigan, Ann Arbor Campus, Medical School, Dept. of Pediatrics & Communicable Diseases, *1335 E. Catherine St., Ann Arbor, Michigan*, 48104, United States of America

The proposed research project is a continuation of plans begun and implemented during the prior year. The major objective is to improve and expand clinical cancer education through a multidisciplinary effort at the University of Michigan. From the medical student standpoint, the clinical assistant program has been successful in identifying and supporting projects related to cancer. Junior medical students are presently assigned to the oncology service in medicine and pediatrics as part of their clerkships. Sophomore students have a revised series of lectures on adult and pediatric malignancy based on the curriculum review carried out in the previous 3 years. Clinical associates are appointed in medicine, gynecology and pediatrics. Faculty support will continue to provide positions in which specific time can be devoted to multidisciplinary approach to the clinical and teaching aspects of cancer. A series of videotapes on Hodgkin's disease, non-Hodgkin's lymphoma and chronic lymphocytic leukemia will be completed for house officer and student instruction. The first two of these are presently available to students in the audio-visual student study center. A plan is available to evaluate the impact of these tapes on cancer education, primarily at the house officer level.

181. CLINICAL CANCER EDUCATION PROGRAM

Weston, W. D., Kohrman, A. F., Suhrland, L. G., Ravitch, M., Olmsted, A. G., Sprafka, S. A., Green, N. M., Richards, R., Moorhead, E., Bowman, H., Bowler, N., Balcueva, E., Michigan State University, School of Human Medicine, Dept. of Human Development, *Soil Science Bldg., East Lansing, Michigan*, 48824, United States of America

The Clinical Cancer Education Program at the College of Human Medicine at Michigan State University proposes (1) to evaluate and augment the curriculum of CHM to insure the presentation of a defined body of knowledge about cancer prevention, detection, pre-treatment evaluation and the treatment, rehabilitation and continuing care of patients with cancer, (2) to train a cadre of physicians who understand the complexity of neoplastic diseases as common health problems regardless of their ultimate career choices, and (3) to meet the continuing

medical education needs in oncology of the physicians who are full time and clinical faculty of CHM through a Cancer Colloquium Program.

Training in Clinical Oncology for students in the College of Human Medicine takes place at six tertiary care centers located in Lansing/East Lansing, Grand Rapids, Kalamazoo, Flint, Saginaw, and in the Upper Penninsula, at Marquette and Escanaba. A Medical Director and an Educational Coordinator have been selected in each community to review and suggest ways to augment their programs in oncology, in close working relationship with the other communities and instructional developers and program evaluators at Michigan State University.

Faculty and Community physicians have been surveyed to determine their needs and interests in continuing education programs in oncology, and programs have been developed to meet these needs. This program development will be ongoing and will involve cooperative efforts in all the communities.

A series of grant-supported cancer-related experiences is being provided for medical students as extracurricular activities.

182. DEVELOPMENT OF A COURSE ON CANCER PREVENTION FOR MEDICAL STUDENTS

Kohrman, A. F., Michigan State University, School of Human Medicine, Dept. of Human Development, *Soil Science Bldg., East Lansing, Michigan*, 48824, United States of America

OBJECTIVE: Development of a course in prevention, focusing on cancer, for undergraduate medical students and/or residents.

183. CLINICAL CANCER EDUCATION PROGRAM

Reed, M. L., Wayne State University, School of Medicine, Dept. of Oncology, *1014 Rivard, Detroit, Michigan*, 48207, United States of America

Within the last few years Wayne State University School of Medicine expanded from a student class of 120 to 256. A clinical cancer education program for undergraduate medical students is conducted in 9 hospitals and coordinated by a multidisciplinary committee. The curriculum of the first two years is fully integrated and the fourth year is entirely elective. During the third year each clinical department is responsible for transmitting to students the 'core' of its specialty. A Department of Oncology was established to facilitate the coordination of cancer 'core' teaching and to conduct elective senior, graduate, and postgraduate clinical cancer education programs. With support from the Division for Educational Services and Research the faculty is engaged in defining and continually updating the education objectives of cancer teaching at all levels. Educational materials and self-instructional packages are being prepared to assure uniform attainment of these education objectives. Evaluation methods are being developed to test not only the cognitive but also psychomotor and attitudinal aspects of student accomplishment. Intensive exposure to oncological problems is provided for house officers in the following disciplines: internal medicine, surgery, otolaryngology, radiotherapy, gynecology, pediatrics, urology, neurosurgery, and orthopedics. A two-year clinical associate program trains ten internists in medical oncology and gives them opportunity to acquire skills in clinical research and education. Subspecialty training programs are also available in gynecological and pediatric oncology.

A continuing clinical cancer education program is being conducted for the practicing physicians of the community.

184. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Gallagher, R. E., Wayne State University, School of Medicine, *1014 Rivard, Detroit, Michigan*, 48207, United States of America

OBJECTIVE: Development of a course in prevention, focusing on cancer, for undergraduate medical students and/or residents. In addition, the Contractor will be required to administer and evaluate the course developed hereunder.

185. SOUTHWEST ONCOLOGY GROUP STUDY

O'Bryan, R. M., VanSlyck, E. G., Abraham, J. P., Brownlee, R. W., Monto, R. W., Huseby, R. A., Sobong, E., Talley, R. W., Tilchen, E. J., Henry Ford Hospital, Dept. of Medicine, *2799 W. Grand Blvd., Detroit, Michigan*, 48202, United States of America

This is a renewal application for continued research in cancer management as a Member Institution of the Southwest Oncology Group (SWOG). The specific aims are to (1) evaluate new pharmacologic agents and regimens, (2) conduct single and multiple disciplinary clinical trials, (3) educate physicians, students, and allied health personnel as to methods of procedure of clinical trials, and to knowledge gained by being a Member Institution, and (4) participate in Group administrative activities. Henry Ford Hospital is a 1,049 bed acute general hospital with outpatient facilities that have 4,000 visits per day. An Office for Interdisciplinary Management of Cancer has been established. Physicians from Oncology/Hematology, Pathology, Surgery, Therapeutic Radiology, Urology, and Dermatology are SWOG members, and physicians from Obstetrics/Gynecology, Otolaryngology, and Pediatrics are proposed. Nurse oncologists from Oncology/Hematology and Therapeutic Radiology participate in patient care, and protocol, educational and data management. The Research Plan is designed to achieve the specific aims through the coordinated use of existing capabilities and scientific growth of the individual disciplinary and multiple disciplinary activities.

186. MINNESOTA CLINICAL CANCER EDUCATION PROGRAM

Kennedy, B. J., Ramsay, N., University of Minnesota, Minneapolis Campus, School of Medicine, Dept. of Medicine, *1305 Mayo, Minneapolis, Minnesota*, 55455, United States of America

The Clinical Education Program is designed to augment the current education program concerning neoplastic diseases at the University of Minnesota Health Sciences Center. It is aimed at augmenting the knowledge of neoplastic diseases among medical students, University Hospitals' house staff, specialists in oncologic specialties and oncology nurses. The proposal that provides for further development of the cancer education program at the University of Minnesota consists of two parts:

Part I supports the Medical Oncology education program providing an internship program for medical students in Medical Oncology, cancer training of medical residents (G-1 and G-2) in Medical Oncology, and augmenting the cancer education of physicians specializing in Medical Oncology. It provides for the development of Medical Oncology faculty for academic positions in Medical Oncology.

Part II supports a multidisciplinary effort to provide medical students an opportunity to expand their learnings in oncology. Because of a deficiency in medical school teaching of oncology, a more unified approach to oncology education is in progress. A Cancer Education Committee provides a means to amplify a multidisciplinary experience for medical students.

187. A PLAN FOR CANCER EDUCATION AT MAYO CLINIC

Edmonson, J. H., Ahmann, D. L., Earle, J. D., Gilchrist, G. S., Mayo Foundation, *200 1st St. S.W., Rochester, Minnesota*, 55901, United States of America

Mayo Medical School and Mayo Graduate School of Medicine, in collaboration with the Mayo Comprehensive Cancer Center, are joining to study and assess and continue to develop cancer education here for medical students, residents, and advanced trainees. We plan to identify specific cancer education objectives for each training level, to assess our current success in accomplishing these objectives and to determine what is being taught at each level more globally. We will develop plans for any improvements needed and introduce any modifications in current curricula and programs required. We will evaluate this program on a continuing basis and attempt to assess our accomplishments over time with the intent of publishing a formal analysis of our cancer education program as it existed before, during and after the development of this special cancer education emphasis.

188. CLINICAL CANCER EDUCATION PROGRAM

Thigpen, J. T., Morrison, F. S., Vance, R. B., University of Mississippi, Medical Center, School of Medicine, Dept. of Medicine, *2500 N. State St., Jackson, Mississippi*, 39216, United States of America

This project proposes to initiate a coordinated, innovative approach to cancer education within the region of the state of Mississippi. The proposed program will establish an Office of Clinical Cancer Education with a director who will chair 3 advisory committees: a clinical cancer committee, a regional cancer advisory committee, and a paramedical cancer education committee. These committees will be responsible for executing

an educational program directed at 4 areas. The first of these areas, the undergraduate cancer education program, will seek to provide students with a basic fund of knowledge and materials with which to self-assess their level of knowledge and to afford an opportunity to broaden their oncologic education through a fourth year elective. The second area, the graduate cancer education program, seeks to coordinate interdepartmental education of residents and fellows to insure their understanding of the multidisciplinary approach to cancer management and the need for oncologic consultation. The third area, the postgraduate cancer education program, will provide self-teaching material to practicing physicians and active teaching programs in which physicians can, if they choose, participate. Finally, the paramedical education program will seek to create a knowledgeable team for the management of the cancer patient. The focal point of all of these programs will be the Office of Clinical Cancer Education with an identifiable head; this alone should increase markedly the utilization of this program by physicians, students, and paramedical personnel.

189. CLINICAL CANCER EDUCATION PROGRAM

Humphrey, L. J., University of Missouri, Kansas City Campus, School of Medicine, *10th & Troost Sts., Kansas City, Missouri,* 64110, United States of America

The main thrust of this program, funded in 1976, has been thus far to establish a medical oncology elective and to develop relevant audiovisual packages. Since the program began the new Truman Medical Center has become operational, our professional staff has been markedly increased, and Loren Humphrey, M.D., Ph.D., joined the Department of Surgery. Dr. Humphrey has become chairman of the Oncology Committee and will be the new program director on this grant. We now plan to continue and expand the medical oncology elective and to offer a new elective in surgical oncology. Furthermore, we plan to start a monthly two-hour special oncology course for the house staff. This would be open to medical students. The next step is to develop post-graduate medical education in oncology. This would consist of approximately ten medical conferences as an improved A.M.A. CME course. With our expanded staff we are now in a position to add a significant oncology component to the required Year V pathology rotation. These various procedures will greatly improve the teaching of oncology for our medical students in this six-year BA/MD program.

190. CANCER AND LEUKEMIA GROUP B

Henry, P. H., University of Missouri, Columbia Campus, School of Medicine, Dept. of Medicine, *M228 Medical Sciences, Columbia, Missouri,* 65201, United States of America

We will continue our studies of patients with various forms of malignant diseases utilizing the protocols of Cancer and Leukemia Group B. We will continue to develop a stronger multidisciplinary group of investigators so that a more effective investigative approach to early cancer can be effected both in our institution and in Cancer and Leukemia Group B. The Ellis Fischel State Cancer Hospital is now an integral part of our program.

We have been members of this group for nine years and the association has made some important contributions to the education and training of medical students, medical houseofficers, medical oncology fellows, nurses and social workers.

191. CLINICAL CANCER EDUCATION PROGRAM

Nadel, E. M., Kitchen, A. D., St. Louis University, School of Medicine, Dept. of Pathology, *1402 S. Grand Blvd., St. Louis, Missouri,* 63104, United States of America

Based on a careful assessment of progress of present efforts, support to develop and improve further a coordinated clinical and basic education program in cancer for medical students, house staff, post-residents, faculty and community physicians, available to those on other campuses and to the health interested laity is requested. Syllabi to define further and expand the information base are to be constructed or revised, providing exposure to increasing levels of sophistication in information skills and attitude development. The instruments for this include appointment of (1) medical students as clinical assistants to receive experience and training in clinically related problems during non-curricular periods and of (2) post-residents as clinical associates in Oncology in five of at least nine available clinical oncology disciplines, and continuance of (3) the multi-disciplinary mid-weekly-noon Clinical Cancer Colloquia and Grand Rounds and of (4) multi-disciplinary weekly working conferences involving several departments. Evaluation and improvement of the three newly constructed and to be tested courses called (5) Integrated Oncology (a multidisciplinary second year medical school course providing supplementary information on the fundamentals of oncology), (6) Cancer in Humans (a course for metropolitan college students with or without a science background, the laity and those in health related fields) and (7) Psycho-socio-economic Aspects of Cancer (after its conversion from an elective to the core curriculum of the 2nd or 4th medical school year).

192. CLINICAL CANCER EDUCATION PROGRAM

Philpott, G. W., Washington University, School of Medicine, Dept. of Surgery, *660 S. Euclid Ave., St. Louis, Missouri,* 63110, United States of America

The overall objective of the Washington University Clinical Cancer Education Program is to provide fundamental knowledge and skills for cancer management to a variety of undergraduate and graduate physicians, paramedical personnel, and members of the community. The educational program is designed to help all 'students' develop a mature attitude toward the cancer patient and to aid him in organizing his sources of knowledge so that he will be able to incorporate the new knowledge and techniques which will become available in the future. The program is directed toward all medical and paramedical professional personnel who may come in contact with cancer patients.

In the previous three years, good progress has been made in a number of areas, i.e., the development of the computer assisted instruction program, the school for enterostomal therapists and the cancer information center. An improved effort to develop combined modality conferences dealing with cancer patient management has also been achieved largely by the clinicians (surgeons, medical oncologists, radiation oncologists) who participate in the Southeastern Cancer Study Group. The Clinical Associates have been important in the organization and running of these conferences as well as other clinical cancer conferences at Washington University. A specific objective for the ensuing year is an improved coordination of these staff and house staff interdisciplinary conferences, clinics, and rounds, using the Clinical Associates supported by this grant. The required sophomore oncology course has been reorganized to correct the deficiencies identified by evaluative technique. Educational experiences in clinical research will utilize protocols and patients in both local and national cooperative group studies. Ongoing review of the program will be conducted by the Washington University Cancer Education Committee.

193. CLINICAL CANCER EDUCATION - MEDICAL

Johnston, W. D., Ridenhour, C. E., Kardinal, C. G., Bricker, E. M., Guerra, O. N., Perez Mesa, C. M., Doss, L., Cancer Research Center, Dept. of Surgery, *Garth Ave. & Hwy. 40, P.O. Box 1268, Columbia, Missouri,* 65201, United States of America

The Clinical Cancer Education Grant CA-17946 from the National Cancer Institute supports graduate education, undergraduate education, continuing medical education, and patient education. The purpose of the graduate and undergraduate education is to increase the trainees' knowledge of cancer and the clinical skills involved in caring for the patient with cancer. Trainees are encouraged to participate in all hospital conferences and to undertake a research project if they are interested. The trainees work closely with the staff and are allowed to do many surgical and medical procedures under close supervision. The grant also offers support for continuing medical education. The major activity is the semi-annual professional program sponsored by the Ellis Fischel State Cancer Hospital (EFSCH) and the Cancer Research Center (CRC). This offers the opportunity to conduct education programs with visiting faculty whose expertise is in cancer care. There is no fee for the programs and they offer an update on various cancers and cancer-related problems to any interested health professional. These programs generally are held at the hospital and, therefore, offer the Missouri health care professional an opportunity to see the facilities at EFSCH and the CRC and to visit with the staff. The patient education section of this grant provides the opportunity for the development, implementaton, and evalu-

ation of cancer education materials for patients and their families. Exposure of trainees to the importance of informing the patient and family is a primary goal. The grant also provides for training positions for graduate students in health education. The students are involved in all facets of designing programs and introduced to cancer patient care in a cancer hospital.

194. CLINICAL CANCER EDUCATION

Lemon, H. M., Foley, J. F., Kessinger, M. A., Al Rashid, R., Miller, D., Tempero, M., University of Nebraska, Medical Center, School of Medicine, Dept. of Medicine, *42nd & Dewey Aves., Omaha, Nebraska,* 68105, United States of America

The objectives of the clinical cancer education program are as follows: 1. Training of medical, nursing and other allied health specialists in cancer prevention, diagnosis and treatment to the highest modern standards. 2. Maintenance of a high level of cancer training in medical house officers both in inpatient and outpatient settings, including the widest possible variety of subspecialty cancer care. 3. Training of undergraduate medical students in development of lifetime attitudes of interest in cancer, since knowledge of the emotional and social problems of cancer patients and their families is a corollary of this, we endeavor to have special training activities for undergraduate and postgraduate fellows in cancer through special care programs for cancer patients and in clinical cancer research as a means of increasing the lifetime interest of physicians in cancer. 4. Increased postgraduate training of physicians throughout Nebraska, South Dakota, western Iowa, northwestern Missouri and northern Kansas in cancer care. 5. Increasing faculty participation in national cancer educational activities maximizing postgraduate cancer training.

BIBLIOGRAPHIC REFERENCES: Kessinger, A., Lemon, H.M., and Foley, J.F.: VM-26 (NSC-122819) as a Second Drug in the Treatment of Brain Gliomas. Cancer Treatment Reports 63:511-512, 1979. Hartman, H.A., Kessinger, A., Lemon, H.M., and Foley, J.F.: Five-Day Continuous Infusion of 5-Fluorouracil for Advanced Colorectal Gastric and Pancreatic Adenocarcinoma. Journal of Surgical Oncology 11:227-238, 1979.

195. CLINICAL CANCER EDUCATION PROGRAM

McIntyre, O. R., Silberfarb, P. M., Crichlow, R. W., Greenberg, E. R., Smith, K. A., Wira, C. R., Dartmouth College, Dartmouth Medical School, Dept. of Medicine, *P.O. Box 833, Hanover, New Hampshire,* 03755, United States of America

A multidisciplinary training program for medical students, house officers, fellows and practicing physicians in basic and clinical aspects of cancer is offered by selected faculty of the Dartmouth-Hitchcock Medical Center. The program is under the direction of Dr. O. Ross McIntyre, Chairman of the Cancer Education Committee at the Dartmouth-Hitchcock Medical Center and Director of the Norris Cotton Cancer Center. Major teaching activities include cancer-related teaching in the basic sciences, a 26-hour multidisciplinary course in principles of oncology taught during the second phase of medical undergraduate education, multidisciplinary training in oncology provided at the clerkship level, subspecialty training in medical oncology and psychiatric oncology, and continuing education for practicing physicians.

196. PROGRAM FOR CANCER EDUCATION

Rush, B. F., Cohen, F. B., Hirschberg, E., Kaminetzky, H. A., Mallams, J. T., Rubin, A. D., Studzinski, G. P., Walters, T. R., Bartell, P. F., College of Medicine & Dentistry of New Jersey, New Jersey Medical School, School of Medicine, Dept. of Surgery, *100 Bergen St., Newark, New Jersey,* 07103, United States of America

The objectives to be supported by the grant are: 1. To develop a broad multi-institutional program involving all of the six major hospitals affiliated with the medical school and further expand its impact on all medical students. 2. To develop instruments to determine student evaluation of the Cancer Education Program. 3. To improve our evaluation of the students' interest in cancer and acquired cancer knowledge during the four years of medical school under this program. 4. To establish and evaluate a system of students' follow-up of clinical cancer patients beginning with the students' first year in medical school. Appropriate controls and statistical evaluation will be used. 5. To increase the exposure of medical students to early oral cancer lesions and enhance their level of awareness and suspicion of these lesions by a cooperative program with the Division of Oral Surgery at the East Orange Veterans Hospital.

We are especially interested in evaluation of the effect of objective number 4 and propose to assign cancer patients for long-term follow-up to half of the first year students in each class using alternate students as controls and to determine what effect the longitudinal follow-up of a patient with cancer has on cancer knowledge and attitudes as compared to students in the same class without this experience.

197. CLINICAL CANCER EDUCATION PROGRAM

Elias, L., Key, C., West, D., O'Donnell, M., Bush, S., Davis, M., University of New Mexico, School of Medicine, Dept. of Medicine, *University Hill N.E., Albuquerque, New Mexico,* 87131, United States of America

OBJECTIVES: The primary objectives of this project are to enhance the medical student's overall knowledge of cancer biology, to improve the standard of nursing education in oncology, and to improve student and physician attitudes toward, and the support of, cancer patients.

APPROACH: This program, a collaborative effort of the UNM School of Medicine and the Cancer Research and Treatment Center, focuses on the need to increase and enhance the medical student's overall knowledge of cancer biology and to improve his attitude toward cancer patients. The medical students' curriculum is being supplemented so that cancer education is approached in a multidisciplinary manner. In addition, students are being taught the natural history of the disease, options for its management, and the appropriate use of consultants in oncology. The standard of nursing education in oncology is being improved to bring about a closer working relationship between nurse and physician in the care of cancer patients.

Student reactions to cancer patients and simulated cancer patients are observed by behavioral science and medical oncology faculty, followed by small group discussions between students and faculty. In an experimental approach, students and physicians are being taught how to face their own mortality so that they might improve their relationships with cancer patients and their understanding of the emotions patients may be experiencing.

An evaluation system is being developed to periodically assess the program and the scientific knowledge and attitudes of students throughout medical school and their continuing medical education.

PROGRESS: As part of the Oncology Block, small group electives are being presented, covering selected aspects of cancer research and medicine. These sessions are designed to foster deeper interest and study by exposing students to topics and projects not usually covered in such courses. Because of the enthusiastic response to these offerings, organization of additional elective offerings to be available at other times of the year is being considered.

During the last academic year 19 senior medical students were assigned to the elective Medical Oncology clinical rotation. One student, working with Dr. Elias during the summer of 1979, received the Bernard and Joan Maier Fellowship.

A clinical nurse specialist was hired to coordinate and develop oncology nursing education. (Text Abridged.)

198. CANCER CENTER CORE SUPPORT GRANT

Marks, P. A., Rifkind, R. A., Spiegelman, S., Ellison, R. R., Weinstein, I. B., Wolff, J. A., Columbia University, College of Physicians & Surgeons, Dept. of Medicine, *630 W. 168th St., New York, New York,* 10032, United States of America

The major objectives of the Cancer Center are as follows: 1. To support and facilitate basic and clinical research in cancer. 2. To maintain and expand the interdisciplinary interaction among investigators devoted to cancer biology. 3. To foster the rapid translation of this basic research into well-controlled, applied clinical investigations and to promote the application of new developments in cancer prevention, diagnosis and care. 4. To provide a broad program of education and training for health professionals at all levels in the most up-to-date concepts in cancer biology, cancer detection, diagnosis, and therapeutic techniques. 5. To develop, in collaboration with other institutions in Metropolitan New York, programs for demonstration of cancer control whose objective is the translation of clinical research into effective clinical practice.

BIBLIOGRAPHIC REFERENCES: Marks, P.A., Rifkind, R.A., Bank, A., Terada, M., Gambari, R., Fibach, E., Maniatis, G., Reuben, R.C. Expression of globin genes during induced erythroleukemia cell differentiation. In Conference on Cellular and Molecular Regulation of Hemoglobin Switching. Seattle, Wash., Grune & Stratton, New York, pp. 437-456, 1979.

199. CLINICAL CANCER EDUCATION

Weinstein, I. B., Ellison, R. R., Chang, C., Curnen, M., Fenoglio, C., Piomelli, S., Columbia University, College of Physicians & Surgeons, Dept. of Medicine, *630 W. 168th St., New York, New York*, 10032, United States of America

This grant directly supports the Columbia University Cancer Center/Institute of Cancer Research Clinical Associate Program; indirectly, it supports the comprehensive, multidisciplinary clinical education program for medical students, postdoctoral students, physicians and allied health professionals in the Cancer Center's Division of Education. Dr. Bernard Weinstein serves as the Deputy Director for Education. This grant supports Clinical Associates in Medical Oncology, Surgical Pathology, Radiation Therapy, Pediatric Oncology and Cancer Epidemiology. In addition, the Cancer Center has educational programs that include weekly interdisciplinary conferences, lecture series, courses in continuing education, courses for second and fourth year medical students and courses in cancer epidemiology.

200. CANCER CLINICAL EDUCATION PROGRAM

Katz, L. A., Henderson, E., Schimpfhauser, F., Wright, J., Noyes, S., Hassett, J., Spaulding, M., Humbert, J., Lore, J., Gaeta, J., Higby, D., State University of New York, Health Science Center at Buffalo, School of Medicine, Dept. of Medicine, *3435 Main St., Buffalo, New York*, 14214, United States of America

This is a proposal to develop, implement, and evaluate a coordinated, multifaceted and multidisciplinary cancer education curriculum at the undergraduate and graduate levels at the School of Medicine of the State University of N. Y. at Buffalo. The approach at the undergraduate level will involve development of a core curriculum and a cross-curricular selective program, expansion of the elective program, change in the emphasis and expansion of the Clinical Assistant program. It is anticipated that these efforts will culminate in the development of a Buffalo Cancer Syllabus.

The graduate education planning will also involve development of a core curriculum expansion of elective possibilities, and a major increase in the activities of the Clinical Associates, to increase the education of students and graduates in surgery and general surgery, medical oncology and pathology.

Techniques will be developed for evaluation of the efforts in cancer teaching at the undergraduate and graduate levels in the School of Medicine. In addition, medical students will be required to demonstrate acquisition of knowledge about cancer at designated intervals through diagnostic and prescriptive testing.

201. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Schimpfhauser, F. T., State University of New York, Health Science Center at Buffalo, School of Medicine, *3435 Main St., Buffalo, New York*, 14214, United States of America

OBJECTIVE: Development of a course in prevention, focusing on cancer, for undergraduate medical students. The Contractor will also be required to field-test and evaluate the course developed hereunder.

202. INTERDISCIPLINARY CANCER EDUCATION PROGRAM

Aust, J. C., State University of New York, Upstate Medical Center, School of Medicine, Dept. of Surgery, *766 Irving Ave., Syracuse, New York*, 13210, United States of America

This proposal requests funding for the rapidly expanding Interdisciplinary Cancer Education Program of the Upstate Medical Center, State University of New York, Syracuse, New York. The objectives of the proposal are to develop an effective and stimulating coordinated program to teach oncology to medical students, house officers, practitioners and paramedical personnel and to encourage and coordinate a multidisciplinary approach to the diagnosis and treatment of malignant diseases.

New and innovative programs include the expansion of our newly established Interdisciplinary Oncology Program, an oncology lecture series in the 2nd year, a core curriculum for all fourth year oncology electives, the establishment of a Pediatric Solid Tumor Program and a continuing education outreach program for outlying practitioners. New means of evaluation will be developed to assess the effectiveness of these activities.

These new programs will markedly enhance our cancer education activities, affecting medical students, house officers, clinical associates and physicians in our catchment area. Since our educational activities are inseparably related to clinical research and cancer care, both patients and practitioners benefit from the rapid translation of new advances into clinical application.

203. EASTERN COOPERATIVE ONCOLOGY GROUP

Bennett, J. M., University of Rochester, School of Medicine & Dentistry, Dept. of Medicine, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

The University of Rochester's Eastern Cooperative Oncology Group (ECOG) project represents the commitment to integrated clinical trials involving the services of medical oncology, radiation oncology and surgical oncology for the care and treatment of cancer patients under the auspices of the University of Rochester Cancer Center.

Development of innovative programs, participation in pilot studies and formal protocols, service on Disease-Oriented Committees and Scientific Committees, attendance at National and Committee meetings, publication of manuscripts, abstracts and reports, and functioning as a teaching and training resource are the continued goals and objectives of this project.

BIBLIOGRAPHIC REFERENCES: Bakemeier, R.F. Costello, W.G., Horton, J., DeVita, V.T. Jr., Bennett, J.M.: Chemoimmunotherapy of Hodgkin's Disease (HD). Proc. AACR and ASCO 20:392, 1979. Johnson, G.J., Costello, W.G., Oken, M.M., Sponzo, R.W. Bennett, J.M., Silverstein, M.N., Glick, J.H., Carbone, P.P.: The Value of Adriamycin and of Mid-Cycle Treatment in Multidrug Therapy of Unfavorable Histology Non-Hodgkin's Lymphoma. Proc. AACR & ASCO 20:196, 1979.

204. CORE CANCER CENTER SUPPORT GRANT

Cooper, R. A., Arseneau, J., Bakemeier, R. F., Bambara, R. A., Beecham, J., Bellelsle, J., Bennett, J. M., Brown, J., Deegan, J., Edlund, B., Evans, I., Henshaw, E., University of Rochester, School of Medicine & Dentistry, Dept. of Pathology, *601 Elmwood Ave., Rochester, New York*, 14627, United States of America

The University of Rochester Cancer Center is a multidisciplinary Center with broad responsibilities for clinical research, primary and consultative interdisciplinary care, and conduct of coordinated programs in cancer education, nursing and basic research.

Clinical research and treatment in the Center is community based and involves a consortium of five general hospitals in Monroe County and affiliated hospitals in the Finger Lakes region. Clinical research emphasizes combined modalities and cooperative group trials and includes participation in R.T.O.G., E.C.O.G., PSYCOG, C.C.S.G., and G.O.G. An in-house clinical investigations committee translates basic research advances into clinical research.

Basic research is focused in fields particularly relevant to treatment advances. The integrating research theme of the Center is the comparative study of damage and repair of macromolecules and organelles critical to cell survival (DNA, RNA, and membranes) and the influence of these on treatment. Biostatistics-Epidemiology Registry, Experimental Pathology/Ultrastructural, Centrifugal Elutriation, and the Animal Tumor Research Facilities serve as broad, shared resources of the Center.

Complementing the core research programs are cancer control and cancer education programs. The Center is, thus, not only as a community, regional, and national clinical research resource, but also a resource for basic research and for the development of education and cancer control models.

205. CLINICAL CANCER EDUCATION PROGRAM

Madden, R. E., Rotman, M., Rothenberg, S. P., Sedlis, A., New York Medical College, Manhattan Campus, School of Medicine,

Dept. of Surgery, *1249 5th Ave., New York, New York,* 10029, United States of America

The objective of this Clinical Cancer Education Program is to provide comprehensive education and acquisition of skills in oncology for medical students, house staff, graduate level students and faculty. Through modification of the core curriculum, an early and intensive exposure of the medical student to oncology is planned. Educational resource support will be provided to affiliated community hospitals, in conjunction with the implementation of community outreach cancer education programs.

The program is multidisciplined and multileveled, both preclinical and clinical, pre- and post-doctoral. The ultimate objective is to provide superior professional care to the patient with malignancy. The Cancer Education Committee establishes policy and has representatives from the preclinical and clinical departments.

BIBLIOGRAPHIC REFERENCES: A. Rivenson, H. Moroson and R.E. Madden: Receptors on Rat Lymphocytes for Mouse Leydig Cells. Proc. FASEB, Vol. 37, p. 362 (78). A. Rivenson, R.E. Madden: The Participation of Eosinophils in Leydig Cell Rosettes. Proceedings of the Third International Symposium on Detection and Prevention of Cancer, Vol. 1, p. 597-601 (78).

206. CLINICAL CANCER EDUCATION PROGRAM

Horton, J., Union University, Albany Medical College, School of Medicine, Dept. of Medicine, *47 New Scotland Ave., Albany, New York,* 12208, United States of America

This program is designed to provide clinical cancer education through curricular and extracurricular programs for undergraduate and graduate physicians, nurses and allied health personnel in this region. The two prinicipal objectives are (1) to increase cancer skills and knowledge, demonstrating the advantages of a multidisciplinary and human approach, and (2) to promote interest and an optimistic attitude toward cancer, thereby motivating more trainees to enter the oncological field. In addition, the program is also aimed at improving and increasing continuing education in the field of oncology for regional community physicians.

Although the Division of Oncology will serve as a focal point for the educational programs, all programs will be planned, supervised and evaluated by the Cancer Education Committee of the Albany Medical College.

A wide variety of teaching methods will be used, including didactic lectures, seminars, clinical demonstrations, on-the-ward instruction, electives, self-instructional materials, and clinical assistantships and associateships. The teaching faculty will be primarily from the Medical College, but outside speakers will also be utilized. A new core course in AMC II will be given. The impact of the cancer education program will be evaluated through various methods: observation, analysis of examination performances, clinical evaluation, pre- and post-tests, student and faculty evaluation, attendance at educational functions, and observation of the numbers of trainees entering careers in cancer. New approaches for defining optimal attitudes of trainees will be developed and used to alter the educational programs.

207. CLINICAL CANCER EDUCATION PROGRAM

Bases, R. E., Kaplan, B., Vogl, S., Lan, S., Steeves, R., Janis, M., Yeshiva University, Bronx Campus, Albert Einstein School of Medicine, Dept. of Radiology, *1300 Morris Park Ave., Bronx, New York,* 10461, United States of America

The undergraduate medical student is the central focus of this proposal. Multidisciplinary management of cancer patients is largely an outpatient function to which students will be introduced from the first year of medical school. This will be done through a study in which lst year students will follow the same patients over approximately 2 years. They will have orientation and didactic sessions in groups of 10 or 12. Students will follow the patients through the usual private office and clinic visits. Lectures on selected topics in the pathophysiology of cancer will supplement the regular second year curriculum. In the third year, during clinical clerkships, oncology teaching will be mainly at the bedside and will take place in the format of consultant rounds, devoted to oncology teaching and emphasizing clinical as well as basic science aspects. These are multidisciplinary and will emphasize the joint management of cancer. Medical students in the 4th year will have an opportunity to take further responsibility for the details of outpatient management of the cancer patients, e.g., the Home Care Program.

Postgraduate education of Clinical Fellows in medical, surgical, radiation, and gynecologic oncology is an essential feature of this proposal. Fellows will all rotate through the other services, participating in the management of cancer in a multidisciplinary effort. Innovations in each individual Fellow's program will allow them to exploit the massive cancer research efforts at this institution.

Extramural cancer teaching will be within continuing education programs of five affiliated hospitals. Evaluation of each aspect of the program has been designed and will be monitored by a professional expert in this area.

208. CLINICAL CANCER EDUCATION PROGRAM

Mirand, E. A., Ambrus, J. T., Holyoke, D., Henderson, E. S., Johnson, R., Schaaf, N., Barlow, J., Freeman, A., Pickren, J., Roswell Park Memorial Inst., *666 Elm St., Buffalo, New York,* 14263, United States of America

The goals of the Clinical Cancer Education Program are to provide cancer undergraduate medical, dental and nursing students, fellows-clinical associates, postgraduates, faculty and allied health personnel with educational and informational materials to broaden their horizons in the field of oncology. The overall objectives of our programs are to introduce the trainees to the care of the cancer patient, to augment present understanding and capabilities in relation to cancer management, to increase awareness of the most recent findings in detection, diagnosis, treatment and rehabilitation of cancer as revealed by current basic and clinical research findings and to provide an opportunity for involvement in ongoing cancer clinical research often combined with basic research investigation.

This proposal is a clinical cancer education program that will be administered by the Office of Education. The clinical programs will enable us to 1) conduct graduate education programs in clinical associates programs, and master's program in oncology for nurses; 2) conduct undergraduate education programs in clinical assistantships for medical and dental students, and professional nursing students; 3) conduct continuing education courses in oncology for practicing physicians and dentists and for professional nurses.

209. EVALUATION OF THE EFFECTIVENESS OF CANCER EDUCATION

Bakemeier, R. F., American Assn. for Cancer Education Inc., *601 Elmwood Ave., Rochester, New York,* 14642, United States of America

For thirteen years, the National Cancer Institute has provided support in the way of grants to medical and dental schools, cancer institutes, and affiliated hospitals, to improve and expand cancer education to medical and dental students. This project is directed toward the development of a methodology for the evaluation of the effectiveness of the grants.

210. CLINICAL CANCER EDUCATION PROGRAM

Myers, W. P., Memorial Hospital for Cancer & Allied Diseases, *1275 York Ave., New York, New York,* 10021, United States of America

The program is to provide multidisciplinary cancer education for both graduate and undergraduate trainees. The objectives of the graduate program are to help physicians to 1) gain knowledge to diagnose and treat patients with cancer and 2) acquire additional skills related to cancer management. Although the emphasis is on multidisciplinary education, individual clinical associates may seek concentration in a specialty. The objectives of the undergraduate cancer teaching program will be to help 3rd and 4th year medical students to acquire an understanding of fundamental principles of cancer biology, epidemiology, detection, diagnosis, treatment and control; develop attitudes and motivation for continued learning about cancer; and develop concepts of comprehensive, multidisciplinary care for patients whose disease sometimes causes severe psychological and social disruption.

The education program includes the major treatment modalities of surgery, radiation therapy, chemotherapy and the new field of immunotherapy. The program provides exposure to

the principles and practices of cancer rehabilitation, clinical information storage and retrieval, and epidemiology.

Funds are requested for the education of 25 Clinical Associates in seven programs integrated for advanced training at the graduate level in 1) surgery, 2) medical oncology and hematologic oncology, 3) pathology, 4) radiation therapy, 5) pediatrics, 6) medical physics and 7) diagnostic radiology. Two surgical specialities, gynecology and urology, are included. Short-term funding of approximately 8 weeks is requested for 40 Clinical Assistants to participate in the same programs on an appropriate level.

The Clinical Cancer Education Program will be conducted in the modern new facilities of Memorial Hospital which has a bed complement of 561. One floor of the new hospital is specifically for clinical research activities. The consolidation of patient treatment and care in the new building has freed the old Memorial Hospital and James Ewing buildings for teaching, clinical research and administrative functions. Within the new hospital and the environments of the Center, i.e., the Sloan-Kettering Institute for Cancer Research, the Rockefeller University, the New York Hospital-Cornell University Medical College, and the Hospital for Special Surgery, students will participate in various services.

211. MULTIDISCIPLINARY THERAPY FOR MALIGNANT DISEASES

Sawitsky, A., Long Island Jewish-Hillside Medical Center, *207-05 76th Ave., New Hyde Park, New York*, 11040, United States of America

Since 1959, this member of the Cancer and Acute Leukemia Group B (CALGB) has collaborated with the other institutional members of the group in the development and implementation of multidisciplinary approaches to new, more effective treatment for cancer and hematological malignancy. Our studies use the most advanced knowledge regarding pre-treatment planning and clinical and pathologic staging to determine biologically similar patient populations for these comparative clinical trials.

In many respects, the development of our operation center has paralleled the development of CALGB; the multidisciplinary approach has expanded beyond its original emphasis on chemotherapy to include not only the surgical and radiotherapeutic disciplines but also other modalities that may affect the survival of the cancer patient. In the light of recent data regarding personality factors in patient response as well as the effect of economic status on patient compliance with recommended therapeutic regimen, our multidisciplinary approach now includes the participation of the psychiatric and social service modalities.

Consistent with our approach to the patient as a whole rather than to the cancer site in isolation, our studies lay particular stress on predictive testing both in vivo (staging) and in vitro, to determine the most effective therapy and lowest toxicity for a given patient population.

The education of medical and paramedical personnel in investigational techniques, which has been a focus of this program for many years, will be expanded and formalized into a comprehensive educational program in clinical trial methodology.

212. CLINICAL CANCER EDUCATION PROGRAM

Shingleton, W. W., Falletta, J. M., Michalopoulos, G. K., Gruffer-man, S., McIntire, S. N., McGrath, D. E., Duke University, School of Medicine, Dept. of Surgery, *Box 3711, Durham, North Carolina*, 27710, United States of America

The objectives of our proposed work are: (a) To expand the teaching/learning experiences of medical students, graduate students, nursing students and graduate nurses, resident physicians, fellows, and community physicians in the basic concepts of oncology and in the clinical management of the cancer patients. (b) To develop better interdepartmental cooperation in clinical and basic research programs to enhance patient care activities. (c) To improve detection and long-term management of cancer patients by educating research and clinical physicians who will be knowledgeable in the field of oncology and thereby provide proper care for the cancer patient and support for the effort to solve the problems of cancer.

Our proposal to expand the oncology teaching/learning/experience of trainees focuses on supporting our Cancer Education Faculty in its efforts to enlarge and to improve the Interdepartmental Course in Oncology, the Oncology Clinical Elective, the program for Clinical Assistants, and the program for Clinical Associates, while continuing to attract outstanding Visiting Professors to our Medical Center in order to enhance our program of oncology education.

213. COMPREHENSIVE CANCER CENTER SUPPORT GRANT

Shingleton, W. W., Duke University, School of Medicine, Dept. of Surgery, *Box 3711, Durham, North Carolina*, 27710, United States of America

Duke University, through its medical center, intends to continue to develop the best comprehensive cancer center for research, treatment and education that its human and physical resources will allow. This effort includes basic and clinical research, training activities at undergraduate, graduate and postgraduate levels, patient care components, community involvement and continuing education activities. In order to continue to organize and coordinate our many and varied activities, and to increase the scope and significance of our contribution to the National Cancer Program, we wish to expand our Comprehensive Cancer Center at Duke University.

214. CLINICAL CANCER EDUCATION PROGRAM

Newsome, J. F., University of North Carolina, Chapel Hill Campus, School of Medicine, Dept. of Surgery, *Manning Dr., Chapel Hill, North Carolina*, 27514, United States of America

With the aid of professional educators (Office of Medical Studies), a combined program in the Schools of Medicine and Dentistry is planned to offer new and expand existing educational opportunities in oncology to selected predoctoral (some premedical) and postdoctoral students of medicine and dentistry, undergraduate and graduate nursing students and public health nurses. These programs will be incorporated where feasible into ongoing educational programs for predoctoral and postdoctoral students, and practicing physicians and dentists.

Traditional clinical oncology teaching will be enhanced by a curriculum which emphasizes clinical-biologic aspects of cancer, including carcinogenesis, new methods of diagnosis and treatment, methods of investigation and the socioeconomic and psychological impact of the disease.

The overall goal is not only to improve existing teaching methods but to attract the good student to oncology.

Methods include the utilization of a Computerized Cancer Data Base, an existing Area Health Educational Centers program, and existing educationally structured tumor clinics. Clincal assistantships and associateships with clinical investigation, self-instructional techniques, videotapes and film strips and other aids are some of the methods to be employed.

Methods of evaluation will include current practices (i.e. numbers of participants, future activities, daily assessments of progress skills and productivity) and the use of clinicologic problems and other techniques designed by the Office of Medical Studies.

BIBLIOGRAPHIC REFERENCES: Hindsley, J. Pack, Jr., M.D., Avis, Ingallill, Newsome, James F., M.D., Fried, Floyd A., M.D., and Avis, Frederick, P., M.D.: Certain Aspects of Analysis of Complement Dependent Antibody in Breast Cancer Patients, Journal of Surgical Oncology 11:107-127, 1979.

215. CLINICAL CANCER EDUCATION PROGRAM

Spurr, C. L., Wake Forest University, Bowman Gray School of Medicine, Dept. of Medicine, *300 S. Hawthorne Rd., Winston Salem, North Carolina*, 27103, United States of America

OBJECTIVES: The Clinical Cancer Education Program of the Bowman Gray School of Medicine is an integrated part of the Oncology Research Center activities. This Center sponsors clinical and basic research in cancer which has brought together a core of faculty in the specialized areas of cancer teaching, research, and care. A Clinical Cancer Education Committee advises the Program Director in the continued development and re-evaluation of the Cancer Education Program.

This multidisciplinary Cancer Eduation Program has the following objectives: a) to develop a balanced academic interest in oncology teaching, research, and exemplary care throughout the Institution and among the profession in this geographic area;

b) to promote, among medical students, paramedical personnel, and young physicians, a continuing interest in the challenge of cancer, and, in some, the choice of a career in oncology; c) to survey the contributions of individual departments in the teaching of the concepts of cancer and to identify, for reinforcement, an integrated program in clinical oncology to be presented as a block of approximately 23 hours in Unit III-IV; d) to evolve teaching aids which will stimulate a systematic approach to cancer diagnosis, treatment and care; e) to promote, with the assistance of the Cancer Control Core Group, a concern and appreciation of the emotional impact of cancer on the patient, medical personnel, and in the family; f) to present clinical work blocks to the student as a means of increasing his interest and proficiency in cancer; g) to develop in the Area Health Education Centers (AHEC) of the state a systematic consultative teaching program for the community physicians, paramedical personnel, and resident physicians in their program, the principal emphasis of which is clear concepts of cancer diagnosis and care; h) to provide to resident physicians with in-depth training in specialized areas of oncology to assure competence and critical evaluation in the further development of cancer care and teaching in their specialized areas.

216. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Hoban, J. D., Wake Forest University, Bowman Gray School of Medicine, Dept. of Medicine, *300 S. Hawthorne Rd., Winston Salem, North Carolina,* 27103, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course in prevention, focusing on cancer, for physicians' assistants.

217. OSU COMPREHENSIVE CANCER CENTER SUPPORT (CORE) GRANT

Yohn, D. S., Cavalaris, C., Grever, M., Balcerzak, S., Glaser, R., Hart, R., Koestner, A., MacVicar, M., Ohio State University, Columbus Campus, School of Veterinary Medicine, Dept. of Veterinary Pathology/Comprehensive Cancer Center, *1900 Coffey Rd., Columbus, Ohio,* 43210, United States of America

The Ohio State University Comprehensive Cancer Center (OSUCCC) requests renewal for five (5) years of its Cancer Center (Core) Support Grant (CCSG). The CCSG will provide the necessary financial support that will assure quality administration of major programs in interdisciplinary basic and clinical cancer research, cancer education and training, cancer diagnosis and therapy, and community outreach. It is the intent of the OSUCCC to translate its own and other laboratories' observations into applicable clinical usage and to communicate existing and newly developed therapies, diagnostic procedures and prevention methods to the Ohio Valley region. The CCSG will provide salary support for directors of vital programs and for key investigators necessary for further Center development. These individuals will collectively help to (1) optimally utilize and integrate the cancer efforts extant within the seven colleges at OSU engaged in cancer research; (2) develop new programs, pilot studies and demonstration projects in cancer research, education, diagnosis and therapy within the OSUCCC and at community levels; (3) encourage, aid, support and integrate community-run programs which are aimed to meet the needs of the respective areas; (4) develop interdisciplinary activities between clinical and basic scientists to affect the translation process from laboratory to clinical application; (5) communicate approved new developments in cancer diagnosis, therapy and rehabilitation to cooperating institutions throughout the Ohio Valley region; and (6) establish effective cooperation with other existing and developing cancer centers including the National Cancer Institute. The OSUCCC will undergo significant development during the next five years that should culminate in solidification of research programs and development of an effective cancer control program for the region.

218. CLINICAL CANCER EDUCATION PROGRAM

Cerilli, G. J., Ohio State University, Columbus Campus, School of Medicine, Dept. of Surgery, *370 W. 9th Ave., Columbus, Ohio,* 43212, United States of America

The proposed research is designed to promote cancer educational opportunities available to students, residents and faculty of The Ohio State University College of Medicine and to the physicians in central Ohio and the surrounding areas of the state. This will be accomplished through a multidisciplinary program designed to provide 1) new and currently unavailable opportunities for multidisciplinary cancer training for Clinical Associates and Clinical Assistants within an institution that has both depth and breadth in the clinical and research aspects of cancer; 2) to promote the multidisciplinary education of the future teachers and practitioners within the field of cancer by a mandated multidisciplinary program; 3) to improve the teaching materials and educational opportunities for students, residents and practicing physicians by utilizing the Clinical Associates and Clinical Assistants in post-graduate courses, radio network communication programs, and further development of computer-assisted instruction programs; and 4) to use a stringent and multiphasic self as well as peer review evaluation program.

219. A REGIONAL AMBULATORY CANCER CHEMOTHERAPY PROGRAM

Battles, J. B., Ohio State University, Columbus Campus, School of Medicine, Dept. of Pathology, *370 W. 9th Ave., Columbus, Ohio,* 43212, United States of America

This project represents the continued development and refinement of a system to educate and implement improved oncology care in a community hospital setting in the region around the Ohio State University Comprehensive Cancer Center. This goal will be accomplished by providing the necessary education and consulting activities to support already established ambulatory chemotherapy units in community hospitals in order to expand the scope of operations to include interdisciplinary treatment procedures for early stage cancer diseases.

220. CLINICAL CANCER EDUCATION PROGRAM

Tidrick, R. T., Merrick, H. W., Robinson, M. G., Skeel, R. T., Smith, M. R., Medical College of Ohio at Toledo, School of Medicine, Dept. of Surgery, *Box 6190, Toledo, Ohio,* 43614, United States of America

The Clinical Cancer Education Program has significantly contributed to the enhancement, expansion and creation of educational activities at the Medical College of Ohio since July 1, 1975. This has been evident in many aspects of the clinical recognition, understanding, and management of the various forms of neoplastic disease. This program has had a salutary effect on medical and nursing undergraduate teaching, the education of residents, interns and clinical associates in several clinical fields, in improvement of interdisciplinary conferences, and in a variety of postgraduate enterprises including physicians, dentists, nurses and allied health persons.

Goals for the coming year include: 1. To incorporate solid introduction to clinical cancer teaching in a new segment of the undergraduate medical curriculum 'Introduction to Clinical Medicine.' The Cancer Education Committee and course directors also will reassess other aspects of the undergraduate curriculum, especially in the direction of providing opportunities for new and expanded electives in the lengthening clinical clerkships which will be effective in 1980-81. 2. To continue the strengthening of, and additions to, symposia and conferences that serve multiple audiences: medical students and residents; practicing physicians, dentists, nurses and allied health personnel. 3. To plan and initiate expanded cancer education in the 20-county Northwest Ohio region, in conjunction with the Northwest Ohio Cancer Network and the developing Area Health Education Center. 4. To relocate the Oncology Resource Room into the new Medical College of Ohio clinical facilities, in proximity to other cancer program activities.

221. CLINICAL CANCER EDUCATION PROGRAM

Lampkin, B. C., Wong, K. Y., Maloney, M., Bove, K. E., Hollan, C. S., Gruppo, R. A., Neely, J., Children's Hospital Medical Center, Dept. of Pediatrics, *3245 Burnet Ave., Cincinnati, Ohio,* 45229, United States of America

The purpose of our cancer education program is to educate both medical and nonmedical groups regarding childhood cancers with the hope that this will lead to a better understanding of cancer in general and that children with cancer will be better diagnosed, treated and rehabilitated.

We plan to teach the principles of oncology, with emphasis on childhood cancers, to medical students, pediatric house staff, post-pediatric residency trainees in pediatric hematology-oncology and pediatric surgery, practicing physicians, nurses, allied health professionals (pediatric dentists, pharmacists, radiation

therapy technologists, physical therapists and occupational therapists, laboratory technicians, public health nurses, hospital dieticians and clergy), parents of children with cancer, the business community and lay public.

Our methods of educating medical personnel will include lectures, conferences, seminars, direct patient experience, and participation in clinical research protocols and projects.

Our education program for the lay public will also include lectures, seminars and conferences but emphasis in this program will be tailored to meet the needs of parents, teachers, and leaders in the business community.

222. A CONCEPT FOR OPTIMAL CANCER CARE IN OREGON

Hutchinson, A. C., Jacobsen, G. A., Fedewa, T. C., Ater, L. L., Wright, C. C., Dean, J., DeMent, P. N., Medical Research Foundation of Oregon, Comprehensive Cancer Program, *6415 S.W. Canyon Ct., Portland, Oregon,* 97207, United States of America

The Oregon Comprehensive Cancer Program (OCCP) is a statewide cancer-control network of 20 metropolitan and community hospitals and 13 major health-care organizations that have joined together voluntarily and agreed to share available professional and educational resources and a core staff. The purpose of this sharing is to increase the availability of cancer-control resources and information in Oregon communities so that all aspects of cancer care, throughout the continuum of the disease, will be available to individuals as near to their homes as practical. During the supplemental grant period (12/1/80-3/31/83), OCCP will progress toward the achievement of its goal by 1) maintaining and expanding its statewide system of voluntary sharing; 2) idenfifying and disseminating up-to-date cancer-control knowledge and information to community health professonals; 3) developing and providing educational resources and programs for upgrading the knowledge and skills of Oregon nurses in all phases of cancer nursing care; 4) planning, promoting, and/or coordinating cancer-control activities in Oregon communities (e.g., specialized cancer-care facilities/services, rehabilitation and continuing-care services, and hospice educational programs and resources); and 5) providing participating institutions and their tumor registries with educational and data-management services and promoting the tumor registry as an integral component of community cancer control.

223. CLINICAL CANCER EDUCATION PROGRAM

Cassileth, P. A., University of Pennsylvania, School of Medicine, Dept. of Medicine, *36th & Hamilton Walk, Philadelphia, Pennsylvania,* 19174, United States of America

The Clinical Cancer Educational Program, a vital component of the University of Pennsylvania Cancer Center, seeks to 1) monitor, develop and expand clinical cancer education at our Cancer Center; 2) initiate new clinical cancer teaching programs to reach additional health care professionals; and 3) heighten awareness of existing means of cancer detection, prevention, diagnosis and management.

The members of the University of Pennsylvania Cancer Center are fully committed to an integrated, interdisciplinary effort to improve cancer education. The Clinical Cancer Education Program will provide learning experiences directly correlated with the problems of clinical care for medical students, house staff, nurses, clinical associates, staff and community physicians. These individuals will be taught the fundamental principles of neoplastic disease and will be provided with a firm grounding in modern concepts of cancer care. This broad-based program will enhance the skills of the variety of health care professionals involved in the treatment of the cancer patient, and will bring more individuals into the field of clinical oncology.

224. ONCOLOGY EDUCATION EVALUATION AND DEVELOPMENT

Kahn, S. B., Brodsky, I., Matsumoto, T., Brady, L., Fuscaldo, K. E., Rubin, E., Sedlacek, T. V., Hahnemann Medical College & Hospital, Medical College, Dept. of Medicine, *235 N. 15th St., Philadelphia, Pennsylvania,* 19102, United States of America

OBJECTIVES: (1) To continue the Core and Track Educational Program in Neoplastic Disease for medical students (Appendix 1). (2) To develop evaluation tools in order to assess cognitive information and non-cognitive knowledge (attitudes) about neoplasia at the undergraduate level (Appendix 2). (3) To continue the clinical assistant vacation non-curriculum fellowship program for medical students on a citywide basis (Appendix 3). (4) To continue the clinical training program for house staff in neoplastic disease. (5) To continue the multidisciplinary training program for oncology clinical associates with the addition of formal training program in gynecology, oncology, pathology and surgery. (6) To write a Core Curriculum Self-Assessment Text for the practicing physician in concert with the American Association for Cancer Education (Appendix 4). (7) To maintain and improve the programs in Hahnemann School of Allied Health Professions. (8) To implement and evaluate the nurse oncology screening training program in cooperation with the Luzerne County Medical Society (Appendix 5). (9) To deliver a course in biostatistics (Appendix 6).

BIBLIOGRAPHIC REFERENCES: Brodsky, I, Fuscaldo, K.E., Kahn, S.B. and Conroy, J.F.: Myeloproliferative disorders: II CML: Clonal evolution and its role in management, in press, Leukemia Research, 1979. Katz, S. Brodsky, I., Kahn, S.B.: Legionnaire's disease: ultrastructural appearance of the agent in a lung biopsy. Archives of Pathology and Laboratory Medicine, Vol. 103, pp. 261-264, May 19, 1979.

225. CLINICAL CANCER EDUCATION PROGRAM

Smalley, R. V., Au, F., Baum, J. H., Finestone, A., Fryer, J., Wimmer, R., Temple University, School of Medicine, Dept. of Internal Medicine, *3322 Broad St., Philadelphia, Pennsylvania,* 19122, United States of America

The goal of the proposed program is the establishment of an optimum environment for developing a systematic, realistic approach to the broad problems of neoplasia which will provide a group of well-trained individuals capable of delivering improved comprehensive care to each cancer patient.

Methods to be used in achieving this goal include: (1) Coordination of cancer instruction in the undergraduate medical school curriculum: (2) expansion of student electives and clinical assistantships; (3) development of innovative evaluation methods with emphasis on affective elements in clinical oncology; (4) coordination and expansion of a clinical associate program; (5) expansion of continuing education in cancer.

226. CLINICAL CANCER EDUCATION PROGRAM

Engstrom, P. F., Sears, H., Herman, R., Tramuta, G., Lederer, B., Harris, D. T., Rogers, J., Inst. for Cancer Research, *7701 Burholme Ave., Philadelphia, Pennsylvania,* 19111, United States of America

The Fox Chase Cancer Center has a coordinated multidisciplnary clinical cancer education program which includes 1) elective studies in the fundamentals of cancer diagnosis and management for students in medicine, dentistry, nursing and allied health professions; 2) continuing education in office detection for practicing professionals; and 3) clinical associate training in the oncology specialities for board qualified internists, surgeons, and radiotherapists.

227. CLINICAL CANCER EDUCATION PROGRAM

Santiago Borrero, P. J., University of Puerto Rico, Medical Sciences Campus, School of Medicine, Dept. of Continuing Medical Education, *P.O. Box 5067, Rio Piedras,* 00936, Puerto Rico

This proposal represents an effort by the University of Puerto Rico Medical School to establish a strong multidisciplinary cancer teaching program. Cancer education will be provided at all levels of the new curriculum (started in the 1973-4 academic year) but is stressed through the programming of multiple elective courses in cancer in the fourth year and graduate level of education. A new component is added in the form of an educational program for teaching and learning about cancer and evaluation based on modern instructional technology. The program establishes clear, concise, specific and general objectives in knowledge, skills, and attitudes for the whole educational process. Most of the teaching activities are open to practicing physicians and will be offered to physicians attending formal continuing educational programs in the Medical School. This improved and expanded program in cancer teaching will result in an increase of well-trained physicians for service to cancer patients in Puerto Rico. To enhance cancer education the Cancer Education Committee has involved all cancer activities of the Medical Sciences Campus and all cancer related departments. The program utilizes the excellent clinical facilities of the Puerto Rico Medical Center and the affiliated hospitals of

the School of Medicine. Over 1,000 cancer patients will be available for teaching and over 600 students, house staff, faculty and community physicians will participate.

228. CLINICAL CANCER EDUCATION PROGRAM

Bernard, L. J., Browne, E. W., Lowe, J. U., Hardy, R. E., Eassa, E. H., Meharry Medical College, School of Medicine, Dept. of Surgery, *1005 18th Ave. N., Nashville, Tennessee*, 37208, United States of America

This is a multidisciplinary, multi-level cancer education program for undergraduate medical students, residents in the usual clinical disciplines and practicing physicians. A variety of pedagogical techniques, including lectures, seminars, small group conferences and preceptorships supported by patient presentations specimen demonstrations, movies and videotapes, slide presentations and the use of models and mannequins, are utilized to accomplish the following objectives: 1. To increase the knowledge and understanding of the fundamental principles of cancer biology, epidemiology, risk factors and the natural course of cancer by medical students, house officers and practicing physicians. 2. To improve the skills of medical students, house officers and practicing physicians in the utilization and performance of procedures useful in the early detection and diagnosis of cancer. 3. To demonstrate a comprehensive, multidisciplinary and humane approach to the care of patients with cancer. 4. To establish more realistic attitudes on the part of students, house officers and practicing physicians toward the care of patients with cancer. 5. To establish motivation for continued study and upgrading of clinical skills in cancer prevention, detection and management.

229. CLINICAL CANCER EDUCATION PROGRAM

Orth, D. N., Vanderbilt University, School of Medicine, Dept. of Medicine, *21st Ave. S. & Garland, Nashville, Tennessee*, 37232, United States of America

The objective of this Clinical Cancer Education Program (CANCEP) is to develop and present a cohesive and comprehensive multidisciplinary educational program in clinical oncology. The primary goal of CANCEP is to provide graduate physicians who are well trained in the integrated approach to the treatment of the patient with cancer, but the education of nurses, paramedical health personnel and lay persons and the continuing education of practicing physicians are also included within the objectives of CANCEP. Close liaison is maintained with programs of basic and clinical investigation in order to insure the timely application of the fruits of cancer research for the benefit of the cancer patient.

The specific objectives of CANCEP include increasing the visibility of clinical oncology in Vanderbilt Medical Center and in the community and stimulating increasing interest in and understanding of the fundamental nature of cancer and its diagnosis, treatment and control; further developing and refining the highly structured Core Curriculum of lectures, seminars and conferences that deals with various aspects of cancer, which is directed primarily at providing a basic fund of knowledge for medical students; developing further an Elective Curriculum consisting of a full array of associated clinical cancer programs within Vanderbilt Medical Center, which is designed to complement the Core Curriculum for medical students, house staff, predoctoral CANCEP Clinical Assistants and post-residency CANCEP Clinical Associates; and the presentation of on-campus courses and seminars and outreach programs to the medical community of the mid-South area which Vanderbilt serves in order to enable the practicing physician to keep abreast of current developments in clinical oncology.

BIBLIOGRAPHIC REFERENCES: L.E. Davis, R.D. Snyder, D.N. Orth, W.E. Nicholson, M. Kornfeld, and D.F. Seelinger. Adrenoleukodystrophy and adrenomyeloneuropathy associated with partial adrenal insufficiency in three generations of a kindred. Am J Med 66: 342-347, 1979. J.N. Moore, J. Steiss, W.E. Nicholson, and D.N. Orth. A case of pituitary ACTH-dependent Cusing's syndrome in the horse. Endocrinology 104: 576-582, 1979.

230. CLINICAL CANCER EDUCATION PROGRAM

Mauer, A. M., Thompson, E., Simone, J. V., Pratt, C., Willmas, J., Aur, J., St. Jude Children's Research Hospital, *332 N. Lauderdale St., P.O. Box 318, Memphis, Tennessee*, 38101, United States of America

St. Jude Children's Research Hospital has cancer education programs at mutiple levels for clinical and basic science students. A 3-month rotation for clinical assistants and a 2-year program for clinical associates are available.

The objectives are to train clinicians with expertise in diagnosis and management who can assume care of cancer patients and who can utilize inpatient care, multiple subspeciality and basic research disciplines. Other programs which interdigitate with those for clinical assistants and associates are also described, as are cancer education programs for nurses and community practitioners.

231. CLINICAL CANCER EDUCATION PROGRAM

Lane, M., Smith, F. E., Lehane, D. E., Steuber, C. P., Cox, M., Baylor College of Medicine, School of Medicine, Dept. of Pharmacology, *1200 Moursund Ave., Houston, Texas*, 77025, United States of America

A program in clinical cancer education will be continued at the Baylor College of Medicine. This program is primarily directed at the education of medical students, but also involves house officers, clinical associates, practicing physicians and paramedical personnel. Both basic science and clinical elective opportunities are provided for medical students throughout their educational experience. The cancer curriculum at the medical school will continue to be broadened and innovative educational techniques will be introduced. Significant emphasis is placed on the psychosocial aspects of the cancer problems. Students are familiarized with cancer etiology, detection, natural history, clinical manifestations, therapy and prevention.

232. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Ingersoll, R. W., Baylor College of Medicine, School of Medicine, Dept. of Medicine, *1200 Moursund Ave., Houston, Texas*, 77025, United States of America

OBJECTIVE: Development of a course in prevention, focusing on cancer, for undergraduate medical students. The Contractor will also be required to field-test and evaluate the course developed hereunder.

233. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Roush, R. E., Baylor College of Medicine, Center for Allied Health Manpower Development, *1200 Moursund Ave., Houston, Texas*, 77025, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course in prevention, focusing on cancer, for physicians' assistants.

234. CLINICAL CANCER EDUCATION PROGRAM

Frenkel, E. P., Babick, A., Cornet, J. A., Graham, M., Helm, P., Jones, R., Streilein, J. W., Vitetta, E. S., Stone, M. J., Montgomery, P. O., Smith, R. G., University of Texas, Health Science Center at Dallas, Southwestern Medical School, Dept. of Internal Medicine, *5323 Harry Hines Blvd., Dallas, Texas*, 75230, United States of America

The Clinical Cancer Education Program serves to develop, provide and implement cancer education for medical students, house staff and practicing physicians as well as allied health personnel, with the goal of improving the care with which the patient with cancer is provided.

The goals include: 1) Development of a cohesive (vertical) teaching program for medical students that provides a coordinated educational continuum in oncology during their medical school career. 2) Development and expansion of the postgraduate medical teaching program. The three components of this program include: a) Teaching of the principles of diagnosis and care of patients with cancer for house staff trainees in all clinical areas. b) Specialized training for candidates seeking a career in care of the cancer patients. c) Development of a continuing education program in oncology for practicing physicians. 3. Extension and development of a cancer teaching program for the School of Allied Health of the University and for Nursing Education. 4) Assisting in implementation and application of advances in clinical care of cancer patients generated or developed by the Cancer Center program.

235. CANCER CENTER SUPPORT GRANT (SPECIALIZED)

Costanzi, J. J., University of Texas, Medical Branch at Galveston, School of Medicine, Dept. of Internal Medicine, *300 University Blvd., Galveston, Texas*, 77550, United States of America

The objectives of the University of Texas Medical Branch (UTMB) Cancer Center program are to implement a coordinated, multidisciplinary medical school-based cancer center which is consistent with the goals of the National Cancer Plan. The major goals of the UTMB Cancer Center are (1) to encourage and support the continued development and implementation of multidisciplinary cancer research activities involving both basic and clinical scientists; (2) to develop and coordinate innovative cancer education and training programs at the undergraduate, graduate, and postgraduate levels; (3) to provide the highest quality medical care for the large number of patients with neoplastic diseases who are referred to the UTMB hospitals, and (4) to develop and coordinate a cancer control program that will reduce the incidence, morbidity, and mortality due to cancer.

Research of high quality, related to neoplastic diseases, is currently being conducted by UTMB Cancer Center participants in both the basic and the clinical sciences. The Center serves as a focal point for supporting existing areas of interaction and initiating new efforts of interaction between basic and clinical scientists. Training conducted on the UTMB campus includes medical students, graduate students in basic sciences, house officers, allied health personnel, and nurses and provides continuing education for the various health professions. Cancer Center members include faculty engaged in the development, coordination, implementation and evaluation of innovative educational programs for all of these levels. As a natural result of productive programs in cancer research and education, the most up-to-date treatment capabilities for neoplastic diseases are available in each of the major oncology disciplines, including surgery, radiotherapy, chemotherapy, and immunotherapy.

236. GALVESTON CLINICAL CANCER EDUCATION PROGRAM

Costanzi, J. J., University of Texas, Medical Branch at Galveston, School of Medicine, Dept. of Internal Medicine, *300 University Blvd., Galveston, Texas*, 77550, United States of America

The University of Texas Medical Branch (UTMB) at Galveston desires to maintain a coordinated, multidisciplinary medical school-based Clinical Cancer Education Program which represents a logical extension of current activities in oncology at UTMB. UTMB, with its large student and house officer enrollment and its long history as a source of continuing education for practicing physicians, has made the development of innovative cancer education and training programs at the undergraduate, graduate, and postgraduate levels a major objective of its cancer effort.

In accomplishing this objective, it is essential that the education and evaluation of undergraduate students, house officers, and practicing physicians in regard to the principles of the diagnosis and treatment of neoplastic disease be coordinated. The program strives to meet objectives in the affective, cognitive, psychomotor and interpersonal domains which relate to each of the six competencies listed: 1) Skill in gathering and recording clinical information pertinent to the cancer problem. 2) Competency in defining the patient's problems related to cancer. 3) Judgement in deciding the appropriate physician intervention in the diagnosis and management of cancer. 4) Judgement and skill in implementing treatment for cancer. 5) Accepting responsibility for health maintenance and prevention of cancer in one's patients. 6) Effectiveness and appropriateness of one's attitudes toward one's role as a physician generally in dealing with the problem of cancer.

237. CLINICAL CANCER EDUCATION

Blumenschein, G. R., Greer, B., Swanson, D., Ames, F., Silberberg, Y., Keating, M., Yap, H., Frankel, L., Hamberger, A., Fleming, T., University of Texas, University of Texas System Cancer Center, M.D. Anderson Hospital & Tumor Inst., Dept. of Dental Oncology, *6723 Bertner Ave., c/o Texas Medical Ctr., Houston, Texas*, 77030, United States of America

In the coming years we wish to improve upon our present programs, make them more available to an earlier level of trainee, increase our participation in continuing cancer education, establish mechanisms to insure comprehension in our education programs, expand education opportunities where demand requires, produce and evaluate new instructional aids and examine the value of formal student and program evaluation.

Funds for the training of 14 medical and dental students, 10 clinical associates (fellows) and to provide consultants for the Clinical Oncology Grand Rounds, Basic Science Seminars and the Fundamentals of Oncology Course I and II will be provided through this grant application.

238. CANCER CONTROL AND PREVENTION DEVELOPMENT AND SUPPORT

Jackson, C. B., University of Texas, University of Texas System Cancer Center, M.D. Anderson Hospital & Tumor Inst., Cancer Control Programs, *6723 Bertner Ave., c/o Texas Medical Ctr., Houston, Texas*, 77030, United States of America

The principal objectives of the Cancer Control Program of the University of Texas System Cancer Center for the period from 6/1/77 through 5/31/78 are as follows: 1) Identify and appoint qualified physicians to clinical positions on the Center's institutional staff to establish a statewide core faculty to assist in the conduct of educational programs; 2) attempt to develop and test a community model of public education as an adjunct to cancer detection programs in cooperation with other agencies; 3) review utilization of private practices of practicing physicians in formal program for cancer detection; 4) identify resources, such as the ACS, and develop a patient/family peer support system to be conducted by volunteers with a history of cancer involvement; 5) promote the establishment of a prototypical uniform data bank of cancer information for hospitals with fewer than 100 beds; 6) establish regional advisory councils to inventory resources and identify needs required for care of cancer patients; and 7) utilize multi-organizational groups as vehicles for continuing oncology education programs.

239. CLINICAL CANCER EDUCATION PROGRAM

Coltman, C. A., Aust, J. B., Cruz, A. B., Duffey, P. S., Cameron, I. L., Chauvenet, P. H., Elsen, D., George, J. N., Gim, S. O., Knight, W. A., Kolb, W. P., Gates, G. A., University of Texas, Health Science Center at San Antonio, Medical School, Dept. of Medicine, *7703 Floyd Curl Dr., San Antonio, Texas*, 78284, United States of America

An intensive review and documentation of the interdisciplinary oncology curriculum through the four years of medical school have been initiated. The product of this process will be a manual of oncology objectives, and review questions. An Oncology Test is administered yearly to graduating seniors to measure their knowledge of oncology topics. The test items are cross-referenced with the oncology objectives. Analysis of students' performances on the oncology items from the NBME parts I and II is also done yearly as another measure of student achievement. Short audiotapes on various oncology topics are being developed and will be available to students and house staff via telephone. The tapes will address the proper procedures for the diagnosis and workup of oncology patients. Programs for Clinical Associates (fellows) and Clinical Assistants (students) have been implemented and are ongoing. Continuing Education courses for physicians and community awareness programs for the public are done annually.

BIBLIOGRAPHIC REFERENCES: Coltman, C.A., Jr.: Hodgkin's disease: Chemotherapy. In Current Therapy, H.F. Conn, ed. W.B. Saunders, Co., Philadelphia, pp 281-286, 1979. Jones, S.E., Grozea, P.N., Metz, E.N., Haut, A., Stephens, R.L., Morrison, F.S., Butler, J.J., Byrne, G.E., Moon, T.E., Fisher, R., Haskins, C.L., and Coltman, C.A. Jr., Superiority of adriamycin-containing combination chemotherapy in the treatment of diffuse lymphoma. A Southwest Oncology Group study. Cancer 43:417-425, 1979.

240. CLINICAL CANCER EDUCATION PROGRAM

Athens, J. W., Eyre, H. J., Stewart, J. R., Rikkers, L. R., Johnson, G. H., Lahey, M. E., Goodnight, J., Cathey, W. J., Moody, F. G., Petajan, E. S., Meservy, D. P., Hardin, K., Utah Higher Education System, University of Utah, School of Medicine, Dept. of Internal Medicine, *1400 E. 2nd S., Salt Lake City, Utah*, 84112, United States of America

The Clinical Cancer Education grant will provide support for an ongoing proven cancer education program at the University of Utah. The present program has multidisciplinary support for education of medical students, interns, residents, clinical

associates, and postgraduate physicians as well as nursing students, nurses and other medical personnel.

The broad geographic area served by the University of Utah has a shortage of trained oncologists. The cancer education grant will help to meet this need by teaching community physicians and nurses to upgrade the quality of care of cancer patients. It will also continue and expand the training programs for oncologists in all specialties.

The program uses the following methods: multidiscipline tumor conferences, seminars, consultant services, cancer ward rounds, medical, radiation, gynecological, and pediatric oncology clinics, and participation in Southwest Oncology Group, Gynecology Oncology Group and Children's Study Group A cancer treatment protocols.

An effort is in progress to develop realistic goals and to evaluate the success of reaching them.

241. CANCER CENTER (CORE) SUPPORT GRANT

Krakoff, I. H., Yates, J. W., Albertini, R., Bresnick, E., Foster, R. S., McCormack, J., Newman, R. A., Schaeffer, W., University of Vermont & State Agricultural College, School of Medicine, Dept. of Medicine/Pharmacology, *85 S. Prospect St., Burlington, Vermont*, 05401, United States of America

The overall objective of the total project is the development of an effective University-based cancer center, serving a semi-rural environment. It is planned to develop effective programs in cancer research, centering on several main programmatic areas: A. (1) Medicinal Chemistry/Pharmacology; (2) Cell Biology/Carcinogenesis; (3) Clinical Research; (4) Cancer Control and Rehabilitation. B. Cancer education for undergraduates, graduate students in medicine and basic sciences, medical practitioners and nurses (a second major field of development). C. A regionwide community outreach and treatment program.

BIBLIOGRAPHIC REFERENCES: Goldberg, R.S., Krakoff, I.H.: Cis-diamminedichloro-platinum. Hospital Formulary, 14/10:891-895, 1979. Joss, R.A., Krakoff, I.H.: Natural Products - Vinca Alkaloids, Epipodophyllotoxins, and Maytansine. Hospital Formulary, 15/3: 194-203, 1980.

242. CLINICAL CANCER EDUCATION PROGRAM

Wanebo, H. J., Sabio, H., Constable, W., Fechner, R., Johns, M., Goldstein, G., University of Virginia, School of Medicine, Dept. of Surgery, *Box 246, Charlottesville, Virginia*, 22901, United States of America

The objective of the Clinical Cancer Education Program is to complete the development, implementation and evaluation of an interdisciplinary cancer curriculum at the undergraduate, graduate, and continuing education levels. The program will be geared toward establishing an educational curriculum for the medical students, house staff and clinical associates, as well as offering education opportunities for the University of Virginia staff, local physicians and other allied health personnel.

The primary objective for the undergraduate curriculum is the development of a Book of Cancer Objectives. This book will insure that the student will have a defined body of required knowledge of cancer studies by the end of his four years.

The emphasis for the development of the graduate program will be to expand the Clinical Associate Program into a multidisciplinary program such that every clinical associate in any of the oncology specialties will have exposure to radiation therapy, chemotherapy and surgery, the three major areas of treatment.

In the Continuing Education aspect of the program, proposed objectives are to develop a program specifically designed for those at the postgraduate level who desire updating and expansion of their cancer knowledge and to develop a program of cancer education for medical personnel other than physicians in the form of a multidisciplinary cancer studies elective.

243. CLINICAL CANCER EDUCATION PROGRAM

Faulconer, R. J., El Mahdi, A. M., Peeples, W. J., Mullen, J. T., Acosta, A., Howe, R. D., Eastern Virginia Medical School, School of Medicine, Dept. of Surgery, *358 Mowbray Arch, Norfolk, Virginia*, 23507, United States of America

This research project in clinical cancer education is presented to request continuing support of oncology related professional education in eastern Virginia under the auspices of the Eastern Virginia Medical School. A computer-based assessment/educational system was initiated in 1979 and will be completed in 1981. With this grant a formalized undergraduate and postgraduate curriculum in comprehensive oncology can be achieved, based on a computerized system. Continuing medical education in oncology may thus be reasonably standardized, without rigidity, allowing for individual initiative within an accepted practice system for the eastern third of the state of Virginia. This project will permit continuation of a relatively stable teaching method new to eastern Virginia, with special emphasis on visiting tumor boards and professional tours participating hospitals in the Medical School programs.

244. CLINICAL CANCER EDUCATION PROGRAM

Hazra, T. A., Virginia Commonwealth University, Medical College of Virginia, Dept. of Medicine, *1200 E. Broad St., Richmond, Virginia*, 23298, United States of America

This project is designed to improve the quality of Cancer Education at MCV at the undergraduate, graduate and continuing education levels. At the undergraduate level, activities will include assessment of cancer coverage within an organ system curriculum and development of additional offerings in cancer for both the preclinical and the clinical years. At the graduate level, activities will include core instruction for house staff in the major residency programs and development of a clinical associate program for graduate physicians in surgical pathology (oncology), pediatric hematology oncology, surgical oncology, medical oncology and gynecologic oncology. At the continuing education level, activities will include the development of community hospital cancer teams and need based continuing education courses in oncology. Evaluation will focus on both individual program elements and overall project impact.

245. CLINICAL CANCER EDUCATION PROGRAM

Jones, R. F., Fefer, A., Figge, D. C., Blasko, J. C., Singer, J., Norris, H. T., University of Washington, School of Medicine, Dept. of Surgery, *A-300 Health Sciences Ctr., SC-64, Seattle, Washington*, 98195, United States of America

This Continuation Grant Application is presented for the third year of a three-year grant and includes the Progress Report for the previous year. The program is multi-institutional, including the Medical School, Dental School and School of Nursing as well as the Fred Hutchinson Cancer Research Center. We have added to our group Dr. Tom Griffin, newly appointed Chairman of the Department of Radiation Oncology, and Dr. Frederick Appelbaum, who has replaced Dr. Hal Glucksberg in the Division of Medical Oncology, Department of Medicine. We have partially achieved our previously stated objectives with variable degrees of success. A new medical student course in cancer was initiated by former trainees under this grant program and was presented to the medical student body as an approved but voluntary course in oncology. Six medical students received instruction and training in our summer oncology fellowship. Plans are under way to evaluate the progress of our cancer education program and to improve teaching during the final year of the current grant.

246. PATHOLOGY - ELECTRON MICROSCOPY CORE FACILITY

Hutchinson, W. B., Hartmann, J. R., Neurath, H., Sparkman, D. R., Sale, G. E., Fred Hutchinson Cancer Research Center, *1124 Columbia St., Seattle, Washington*, 98104, United States of America

The electron microscopy laboratory is a basic core resource for many basic and clinical investigators at the Fred Hutcinson Cancer Research Center. It is supported by the CORE Grant (CA15704) for the Comprehensive Cancer Center comprising FHCRC. An AEI Corinth transmission electron microscope was installed in September 1975. A JEOL 100 electron microscope has been funded in the CORE Grant renewal of 1980 and installation is proceeding. Facilities are for all investigators of FHCRC. Major users have been Medical Oncology (in the diagnosis of tumors and research on the lesions of graft-versus-host disease), Genetics, Biochemical Oncology, Basic Tumor Biology, Tumor Immunology, and Developmental Biology. The new microscope will be used primarily by Genetics and Developmental Biology groups for studies of nuclear chromatin and DNA strands at high resolutions. Tumor Virology will also be using electron methods to characterize RNA viruses and their subunits.

247. CLINICAL CANCER EDUCATION PROGRAM

Watne, A. L., Jones, B., Weiss, R. B., West Virginia University, School of Medicine, Dept. of Surgery, *Morgantown, West Virginia*, 26506, United States of America

The objectives include acquiring an understanding of cancer biology, epidemiology, detection, diagnosis, treatment and control along with establishing attitudes for continuing education about cancer and concepts of multidisciplinary care for the cancer patient. The methods include a Basic Cancer Course for clinical assistants utilizing a system approach to curriculum and design, a continuing education program in cancer involving all phases of work each year, senior oncology electives to emphasize the multidisciplinary aspect of cancer care and a comprehensive multidiscipline clinical associate program emphasizing care for the complex cancer patient. Evaluation for the four components of the program will be a developing process evaluating changes in student behavior in both the cognitive and the affective domains.

248. CANCER CENTER SUPPORT - COMPREHENSIVE

Carbone, P. P., University of Wisconsin, Madison Campus, Center for the Health Sciences, Dept. of Human Oncology, *500 Lincoln Dr., Madison, Wisconsin*, 53706, United States of America

The Wisconsin Clinical Cancer Center is a University-based comprehensive cancer center dedicated to patient oriented laboratory and clinical cancer research, multidisciplinary care, and professional and public education. The WCC has an academic home in the Medical School and Center for Health Sciences with 45 professional members in the Department of Human Oncology. The Center also serves as a focal point for cancer research and patient care for other departments in the Medical School, providing financial, intellectual, and physical facilities for a large number of associate members. A close relationship exists with these other departments in regard to cancer activities.

The WCCC is responsible for major clinical research programs with multidisciplinary trials for breast, pancreas, lung, melanoma, and genitourinary cancers. Laboratory research programs include etiology, pharmacology, radiobiology, endocrinology, immunology and genetics. Outreach programs include many professional and non-professional educational activities, as well as diagnostic and management networks for colposcopy and head and neck cancer. Future ares of emphasis will include strengthening of current programs, as well as development of new effforts in somatic cell genetics, nutrition and preventive oncology.

249. CLINICAL CANCER EDUCATION PROGRAM

Borden, E. C., University of Wisconsin, Madison Campus, Center for the Health Sciences, Dept. of Human Oncology/ Medicine, *500 Lincoln Dr., Madison, Wisconsin*, 53706, United States of America

This grant provides for education programs of the Wisconsin Clinical Cancer Center. These activities include curriculum review and development of medical student courses, educational opportunities for medical students to work with individual faculty members in the area of clinical neoplastic disease, a two-year program for clinical associates to pursue post-doctoral training in neoplastic diseases, an educational program for family medicine residents, and continuing medical education. Acitivities are coordinated by the multidisciplinary cancer education committee of the University of Wisconsin School of Medicine.

250. DEVELOPMENT OF A COURSE IN CANCER PREVENTION

Love, R. R., University of Wisconsin, Madison Campus, Medical School, Dept. of Human Oncology, *430 N. Randall Ave., Madison, Wisconsin*, 53706, United States of America

OBJECTIVE: Development, implementation, and evaluation of a course in prevention, focusing on cancer, for undergraduate medical students and/or residents.

251. CLINICAL CANCER EDUCATION GRANT

Cox, J. D., Donegan, W. L., Clowry, L. J., Lennon, E. J., Mattingly, R. F., Holoye, P. Y., Youker, J. E., Anderson, T., Medical College of Wisconsin, School of Medicine, Dept. of Medicine, *561 N. 15th St., Milwaukee, Wisconsin*, 53233, United States of America

The Medical College of Wisconsin has made considerable progress in cancer education since 1974. Programs for undergraduate students, graduates and fellows in specialty training, and community physicians have been developed and expanded. An Oncology Service has been established as a matrix to bring together all the specialities dealing with cancer. An Interdisciplinary Oncology Unit and Oncology Clinics have been established. Undergraduate and graduate medical education has been substantially affected by the activities associated with the Cancer Education Grant from 1975 through 1979.

The main thrust of our future efforts will be the further development of the Oncology Unit. Education of a cadre of nurses in both in-patient and out-patient care of the cancer patient is the key to continuity of care and education of Clinical Assistants and Associates. Learning resources for patients, nurses, and physicians will be explored and implemented. Evaluation methods will be expanded and refined. Methodology in cancer education will become a point of focus while programs continue to develop a medical community better able to provide total care to the patient with cancer.

252. CLINICAL CANCER EDUCATION PROGRAM

Camitta, B. M., Lauer, S., Casper, J., Chusid, M. J., Duck, S., Gill, J., Glicklich, M., Herrman, J., Hodach, A., Holcenberg, J., Jacobs, P., Jelsema, C., Milwaukee Children's Hospital, Dept. of Pediatrics, *1700 W. Wisconsin Ave., Box 1997, Milwaukee, Wisconsin*, 53233, United States of America

The purpose of this program is to reduce incidence, morbidity and mortality from childhood cancer through education of physicians, nurses and medical students in the prevention, early diagnosis, evaluation, treatment and follow-up care of children with cancer. For medical students, our methods include lectures during their basic science years and assignment to children with cancer, and lectures, discussions and opportunities for elective rotations in oncology during the clinical years. First, second, and third year pediatric trainees attend weekly multidisciplinary tumor conferences and serve as house officers on the cancer research inpatient unit. Post-residency trainees have the opportunity for formal, structured, 1-2 year clinical cancer training experiences leading to careers as pediatric oncologists in group practices, cancer centers or medical schools. Practicing physicians receive cancer education by participation in the care of patients with cancer whom they refer to this center, by participation in tumor conferences, and by periodic presentations concerning childhood cancer at the weekly hospital Grand Rounds and monthly Mortality Conferences. Nurses receive in-service training in the care of children with cancer and participate in rounds and other formal teaching exercises as well.

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